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# STATE OF THE INDUSTRY REPORT ON INVESTMENT AND DEVELOPMENT OF SPACE SOLAR POWER

**Abstract**

Space solar power is an old idea. From its initial suggestion in the 1940s to the first practical concept by Dr. Peter Glaser in 1968, it has been analyzed, studied, and refined many times. Multiple government institutions, including NASA, JAXA, ESA, and CAST have invested significant funds into developing direct space solar power research. In parallel to these direct studies, considerable investment has also flowed into enabling technologies that serve as the cornerstone of current space solar power development concepts, including space solar panels, space hardware manufacturing, low-cost launch, wireless power transfer, robotic assembly, and swarm monitoring/control. In the last few years, space solar power concepts and studies have received increased funding, including non-governmental funding showing a strong positive growth trend. Multiple reports in 2021 and 2022, including from this author, have found that while space solar power has been technically feasible for decades, falling launch and hardware costs have only recently made it economically viable as well. In spite of these findings, translation from economic feasibility to economic reality will require additional high-value investment.

Sourcing these new funds requires investment context. This technical paper will present a state of the industry report on space solar power, including the total and source distribution of historical investments. It further contextualizes the investments in space solar power with the scale of investment in key technologies and their current technology readiness levels. The methodologies developed for this report and the data sourced are intended to serve as a catalyst, alongside industry feedback, to create a template for ongoing reporting of this growing market sub-sector.