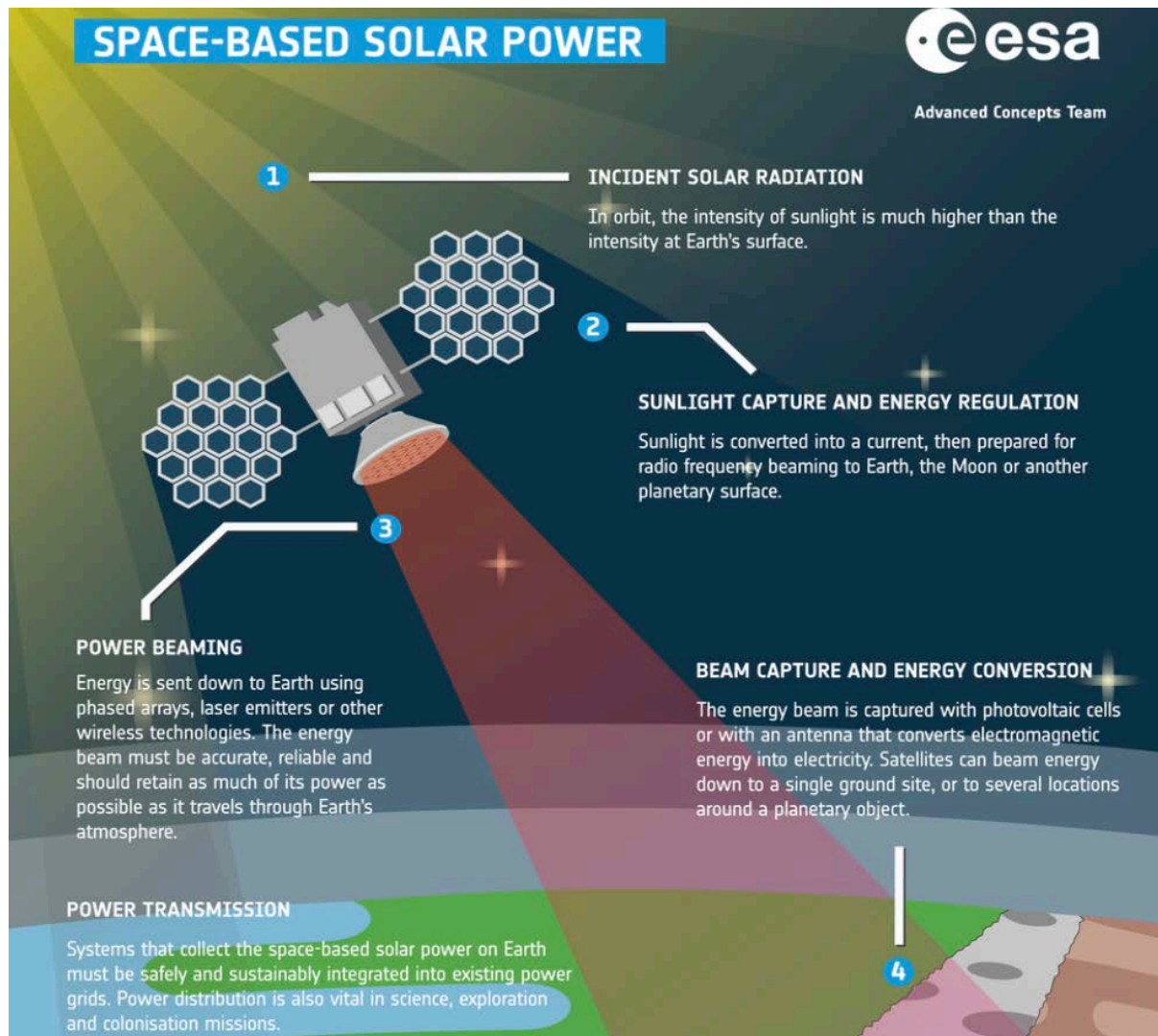


# INTERFACULTY GRADUATION

## AE5822: LUNAR ARCHITECTURE & INFRASTRUCTURE



Source: ÖÜCE

### Tutors

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Code	AE5822
Credits	45 ECTS
Location	Moon
Excursion	-
Costs	-

In order to generate energy during and after the construction of Lunar Architecture and Infrastructure (LA&I) various technologies are considered with the ultimate goal of developing an autarkic system for computationally and robotically building and operating LA&I from locally obtained materials. Particular attention is given to the use of Space-Based Solar Power (SBSP) systems, given their recent relevance in the agendas of both TU Delft and ESA. The potential advantages of SBSP are evident, ranging from the availability of a much larger amount of power (sunlight in orbit is more than 10 times higher than the average on Earth surface), to the possibility of collecting power in a virtually continuous way, without any eclipse or night-time, depending on the specific orbit in which the power generation plant is placed.

Many challenges still need to be solved, especially for the system required to beam the energy down to ground (electromagnetic waves or laser beaming are the two most widely

considered options at the moment), but the concept is promising and there seems to be no significant showstoppers to its actual realization. When fully demonstrated and implemented, SBSP can represent an effective contribution towards a future in which more sustainable energy sources will be used by mankind on Earth, but can also be a promising way to provide large amounts of power to exploration and colonization missions of other celestial bodies (such as the Moon or Mars). For this reason, the European Space Agency (ESA) has recently funded several projects and calls for ideas to further advance the concept, in some of which TU Delft has been explicitly involved.

[Additional info available on 29th April, 12:45h, room C, Faculty of Architecture and the Built Environment and RB website \(http://www.roboticbuilding.eu/project/moonshot/\).](http://www.roboticbuilding.eu/project/moonshot/)