

IAF SPACE POWER SYMPOSIUM (C3)
Space Power System for Ambitious Missions (4)

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MATURING WIRELESS POWER TRANSMISSION TECHNOLOGY FOR SPACE: MILITARY,
CIVILIAN, COMMERCIAL AND INTERNATIONAL ASPECTS**Abstract**

Wireless Power Transmission (WPT) will enable spacecraft to shrink or eliminate their own bulky power source by being supplied by a power source from space or Earth. WPT will be part of the energy infrastructure in space. WPT has been proposed for terrestrial use but it will be ideal in space due to the lack of obstructions. However, wpt faces numerous hurdles to maturation. This paper will examine military led and civilian (including commercial space) led efforts to develop the technology and how the interest of both and factions within them will complement and conflict with each other. Militaries have an additional interest in WPT technology as it is adjacent to directed energy weapon technology. Technical, political, international and legal factors will be analysed. A key issue examined is that historically military use has often preceded civilian use and how future space technologies can incorporate civilian use early. Another is the challenge of creating a collaboration for wpt development, including efforts targeting terrestrial uses, and prioritising different wants. Possible actions to support wpt development will be suggested by drawing lessons from historical cases of technology development, both space and general technologies.