APPENDIX I: SPACE TECHNOLOGY SUMMARY*[78]

Space Technology Summary

The military potential of space technology was perceived by both super-powers almost immediately after the advent of the space age in 1957. As early as 1958, the Soviet Union submitted a proposal to the UN General Assembly to ban the use of outer space for military purposes[79]. In 1960, President Eisenhower warned the UN General Assembly that it was faced with an urgent choice: preserving outer space for peaceful purposes and for the benefit of all mankind or transforming it into a new arena for the arms race.[80]

During the intervening 40 years, outer space has been transformed into a large and highly specialized support area for terrestrial military theaters.

Command, Control, Communications and Computers (C4)

Command, control and communications (C3) technology provides the soldier with high quality real time battlefield information and integrates space technologies into tactical applications. Effective C3 assures situational awareness and provides the ability to control terrestrial, aerospace and missile forces at all levels of command.

Critical space C3 operational functions and their enabling technologies include automated planning and collaborative decision tools, automated planning and collaborative decision tools, automated satellite operations, real-time aerospace systems integration to yield a common situational picture, integrated data fusion and wargaming, and near-real time monitoring and assessment. The increased reliance on computers have led to the more current designation of command, control communications and computers (C4).

Intelligence, Surveillance and reconnaissance (ISR)

The US Joint Vision 2020[81] depends on information superiority for almost every aspect of military activity. The combination of intelligence, surveillance and reconnaissance (ISR), together with real-time communications and information processing technologies, is its enabler.

The major goal of ISR is success through information dominance. Growing demands for more precise, finished intelligence on a broad range of defense requirements strain the resources currently available. Space-based intelligence collection capabilities have matured into powerful and reliable systems, capable of meeting a greater fraction of user requirements than before. Research and development is being pursued in a full range of technologies to enhance the collection of necessary data and to examine new ways to produce and disseminate the information.

ISR activities assist in international treaty monitoring.

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[78] Content of this Appendix is a summary of the following web sites: http://www.fas.org and
http://www.spacecom.af.mil/usspace
[79] UN Doc. G.A. Verbatim Off. Rec., 13 Sess., 1st Comm. A/C.1/L.219 (1958).
[80] Senate Committee on Aeronautics & Space Sciences, "Statements by Presidents of the United States on International Cooperation in Space – A Chronology: October 1957 – August 1971, US Senate, 92nd Cong., 1st Sess., 1971, 16.
[81] Long Range Plan, US Space Command, Peterson AFB, CO