

HUMAN SPACE ENDEAVOURS SYMPOSIUM (B3)  
Overview Session (Present and Near-Term Human Space Flight Programmes) (1)

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INTERNATIONAL SPACE STATION BENEFITS FOR HUMANITY

**Abstract**

The ISS partnership has seen a substantial increase in research accomplished, crew activities devoted to research, and results of ongoing research and technology development. The ISS laboratory is providing a unique environment for research and international collaboration that benefits humankind. Benefits come from the engineering development, the international partnership, and from the research results. Benefits can be of three different types: scientific discovery, applications to life on Earth, and applications to future exploration. Working across all ISS partners, we identified key themes where the activities on the ISS improve the lives of people on Earth—not only within the partner nations, but also in other nations of the world. Three major themes of benefits to life on earth emerged from our review: benefits to human health, education, and Earth observation and disaster response. Other themes are growing as use of the ISS continues. Benefits to human health range from advancements in surgical technology, improved telemedicine, and new treatments for disease. Earth observations from the ISS provide a wide range of observations that include: marine vessel tracking, disaster monitoring and climate change. The ISS participates in a number of educational activities aimed to inspire students of all ages to learn about science, technology, engineering and mathematics. To date over 63 countries have directly participated in some aspect of ISS research or education. In summarizing these benefits and accomplishments, ISS partners are also identifying ways to further extend the benefits to people in developing countries for the benefits of humankind.