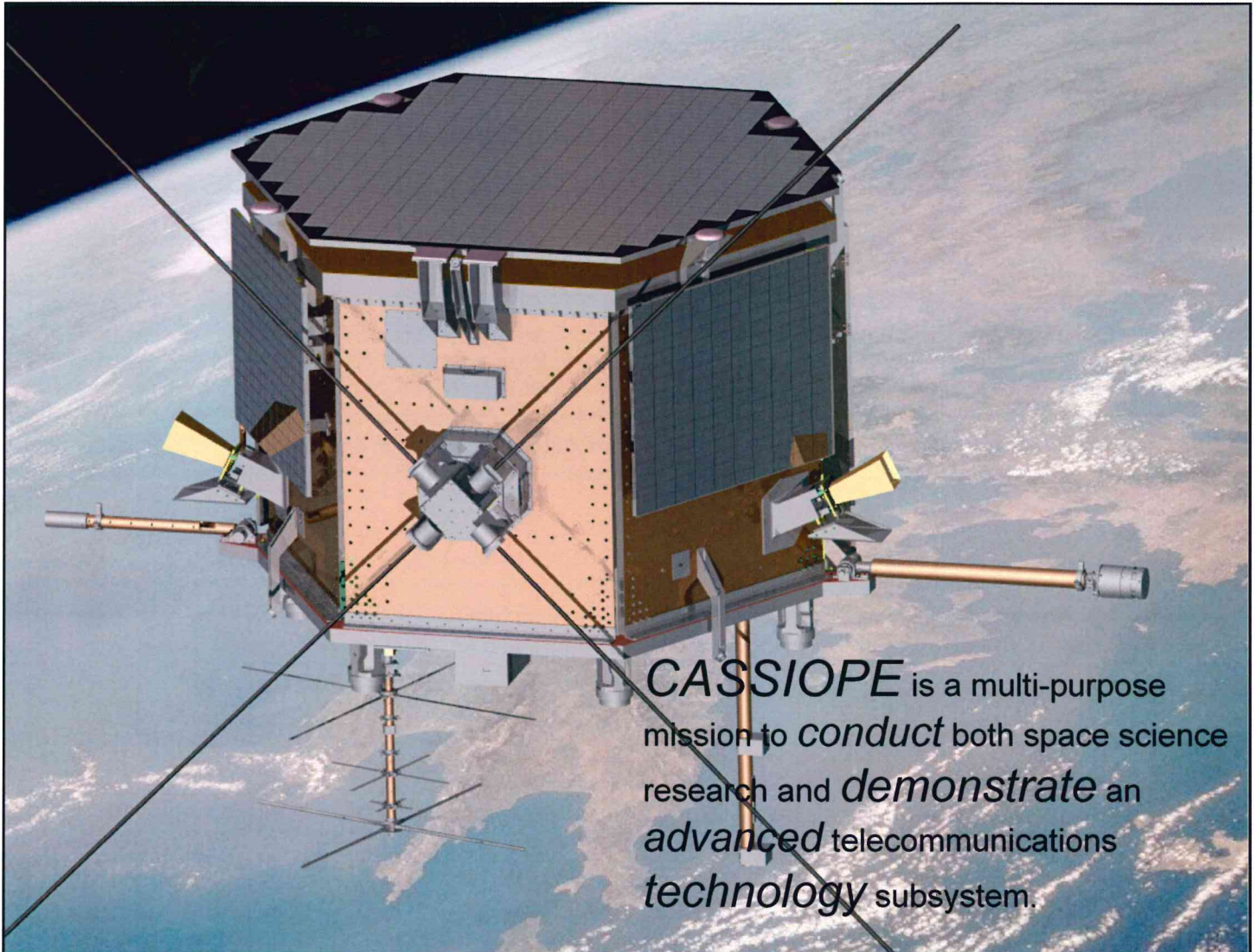


CASSIOPE SPACECRAFT BUS DESIGN, MANUFACTURE, AND DELIVERY



FLEXIBLE ARCHITECTURE • HIGH RELIABILITY • QUALIFIED DESIGN



HERITAGE



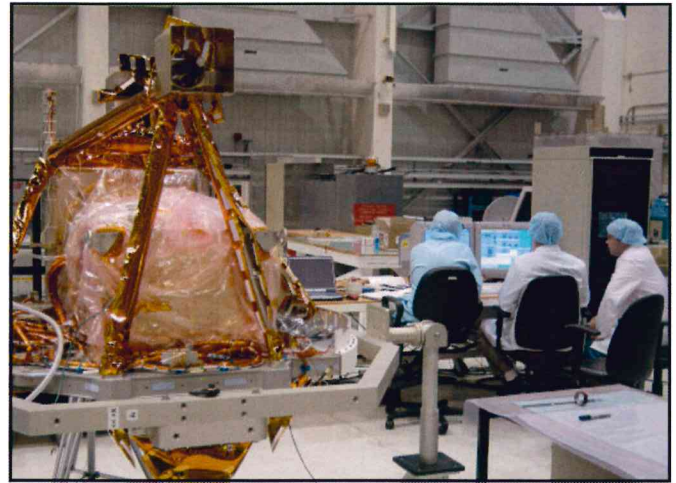
50 *Years of Experience in Space*

147 *Sub-Orbital Payloads*

5 *Satellites*

2 *Space Station Experiments*

5 *Space Shuttle Experiments*



KEY CHALLENGES

The CASSIOPE spacecraft design marks an important milestone for Canada. CASSIOPE is Canada's first, fully redundant, scientific small satellite. The performance and science return available from CASSIOPE was previously thought by many in the space industry to be unobtainable in a spacecraft of this class. Every aspect of the spacecraft design from the hardware to the software and especially the on-board spacecraft computer subsystem, was tailored to keep the size, mass and cost within requirements. The success of CASSIOPE contributed to Magellan securing the bus contract for the RADARSAT Constellation Mission (also based on the MAC-200 bus).

CASSIOPE's complement of nine different instruments makes it a tremendously useful scientific and engineering instrument, but also made it an extraordinarily challenging spacecraft to design. Each instrument has its own field of view, pointing requirements and power demands, which had to be compatible with all other payloads and bus systems. Many of the payloads require deployment sequences which change the spacecraft mass properties, thus complicating the attitude control modes. Any one of CASSIOPE's nine instruments (including the Cascade demonstration) would have been a challenge for a single small satellite bus to accommodate. Magellan's ability to accommodate all nine on a single, fully redundant spacecraft is a significant achievement.

ABOUT MAGELLAN AEROSPACE

Magellan Aerospace is a global enterprise providing integrated products and services to the aerospace industry worldwide. Magellan designs, engineers, and manufactures aeroengine and aerostructure assemblies and components for aerospace markets, advanced products for military and space markets, and complementary specialty products. Magellan Aerospace is a public company whose shares trade on the Toronto Stock Exchange (TSX: MAL), with operating units throughout Canada, the United States, the United Kingdom, Poland, and India.

For more information contact:

Magellan Aerospace, Winnipeg • PO Box 874 • 660 Berry Street • Winnipeg, Manitoba • R3C 2S4 • Canada

Phone: +1 (204) 775-8331

Email: info@magellan.aero

Printed in Canada

Magellan Aerospace
3160 Derry Road East
Mississauga, ON Canada L4T 1A9

T 905 677 1889 F 905 677 5658
www.magellan.aero