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MDA – Intelsat General POSTER

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Abstract

MDA has been the on-orbit servicing solutions provider to NASA, Canadian Space Agency (CSA), DARPA and USAF for over 30 years, with more than \$3B of commercial and government investments through MDA in this field. Since 1981, MDA has provided the Remote Manipulator Systems to the Space Shuttle fleet and has supported NASA on more than 90 successful Shuttle robotic missions including the notable four (4) Hubble Space Telescope (HST) servicing missions. MDA is the Prime Contractor to the CSA for the Mobile Servicing System (MSS) which has been sequentially launched to the International Space Station (ISS) since 2001 to assemble and maintain this invaluable international asset. In 2008, the final and most advanced MSS piece called Special Purpose Dexterous Manipulator (or “Dextre”) was launched to the ISS and is now performing regular ISS maintenance tasks previously only performed by EVA astronauts – all supervised and controlled from the ground. Dextre was also certified by NASA in 2005 to be fully capable of robotically servicing the HST and is now poised to demonstrate new robotic capabilities such as satellite refueling on the ISS. MDA has also supplied state-of-the-art robotic rendezvous and servicing solutions to the US Air Force Research Laboratory and DARPA for the highly successful XSS-11 (2005) and Orbital Express (2007) flight missions respectively, demonstrating critical autonomous rendezvous and robotic servicing/refueling capabilities. MDA has further spun-off its robotic technologies into leading edge terrestrial robotic applications as medical (brain) surgery, nuclear reactors inspection/remediation and mining automation.

Intelsat is the leading provider of fixed satellite services worldwide. For over 45 years, Intelsat has been delivering information and entertainment for many of the world’s leading media and network companies, multinational corporations, Internet Service Providers and governmental agencies. Intelsat’s large geostationary satellite fleet, world-wide teleports and fiber infrastructure is unmatched in the industry. In order to replenish its on-orbit fleet, Intelsat has launched an average of three new spacecraft per year for the past two decades. Intelsat is also a pioneer in providing accommodations for hosted payloads on its geosynchronous communications satellites. Intelsat is currently supporting hosted payload operations which include GCCS/WAAS and IRIS. UHF hosted payloads on two new spacecraft will launch in 2012.

As Intelsat spacecraft approach their end of propellant life, and depending upon the integrity of heritage payload, some of spacecraft may be refueled while others are sent into graveyard orbit. Sufficient numbers of de-orbited and soon-to-be deorbited spacecraft are available for a DARPA demonstration mission. Using Intelsat’s world-wide satellite control capability, attitude-maintained spacecraft should be available within the DARPA timeframe.

In March 2011, Intelsat and MDA jointly announced their Agreement for MDA’s Space Infrastructure Services (SIS). Intelsat has partnered with MDA Corporation to become the first global satellite operator to refuel and service its in-orbit assets. As the operator of the world’s largest commercial satellite fleet, Intelsat plans to utilize this potentially game-changing technology to defer replacement capital expenditures and improve network reliability.

Both Intelsat and MDA are committed to be a pioneer in providing and promoting a new “Replenish, Repair and Reuse” alternative for all our valuable commercial and national assets. Intelsat and MDA offer DARPA the opportunity to leverage on this unique combination of technical, operational and commercial capabilities to make the Phoenix Program a success.