

FROM DEFENCE TO PEACE

Originally created as defence systems by both the United States and the former Soviet Union, what may be called two 'galaxies' of satellites are today being evaluated for more peaceful purposes. That is to provide civil aviation with the best possible navigation tool, as well as a less costly design of a foolproof air collision avoidance system.

They are known respectively as GPS (Global Positioning System), comprising 24 satellites launched since 1989 and operational since 1994, and GLONASS (Global Orbiting Navigation Satellite System), of which some 15 are currently in orbit.

Capable of pinpointing positions to within 100 metres anywhere in the world, 24 hours a day regardless of weather conditions, they are high enough above the Earth that they can avoid problems sometimes encountered by land-based systems.

As such, they represent tremendous potential for solving aeronautical navigation problems, particularly over oceans and seas, as well as sparsely populated land masses.

Also over jungles, mountains and deserts where many ICAO States, particularly smaller ones, face problems installing and maintaining conventional ground-based radar, communications, and navigational aid equipment in such harsh terrain.

operating its own satellite-based communications network.

From its position in space, and picking up where cellular and two-way radio leave off, MSAT-1 provides digital voice and data communication services to a coverage area that includes most of the western hemisphere. In doing so, it transforms North America, most of Central America, the Caribbean, and Hawaii, including up to 400 kilometres offshore, into a single seamless communications cell.

In essence, what this means is that regardless of one's location or destination when flying, all one needs is access to MSAT services and a compact satellite phone to communicate with anyone in the world. Services available on the network include digital voice, circuit switched and packet data, facsimile, paging, dispatch radio and two-way messaging.

A geostationary satellite constructed by **Spar Aerospace Limited** in Montréal, which provided the communications payload, and **Hughes Aircraft Company** of Los Angeles, which provided the high-power HS 601

TMI LAUNCHES NEW ERA IN SATELLITE-BASED COMMUNICATIONS

A Canadian success story and a new era in the 'office in the sky' concept was officially launched in April this year when a Canadian satellite soared 36,000 kilometres above the Earth aboard an **Arianespace** 42P rocket from Kouru, French Guiana.

Two decades and over \$500 million in the making, the satellite known as **MSAT-1** marks an historic milestone in the evolution of Canadian communications.

Indeed, it is "the most technologically advanced and most powerful mobile communications satellite ever built for commercial use," according to **John Farrell**,

President and CEO of Ottawa-based **TMI Communications**, which is the only Canadian enterprise

