

Canadensys lands space mission concept contract

Written By JULIA LLOYD

A Caledon based company was recently awarded a \$400,000 Canadian Space Agency (CSA) contract to put together a Sample Fetch Rover mission concept study.

?The idea has been for a long time that we wanted to get samples back from Mars to Earth to allow the scientists to take a look at them.? said Jim Middleton, Director of Operations and Strategy.

The purpose behind the concept study is to get samples from Mars back to Earth. The plan that's been put together, said Middleton, is for a launch coming up next year called Mars 2020, being done by NASA.

The primary job of the SFR is to retrieve samples that will have been acquired by NASA's Mars 2020 Rover and deposited on the surface. The CSA stated their objectives for the concept study category supports the development of a Sample Fetch Rover mission concept.

?The other thing that it's capable of doing, as it wanders along Mars, around Mars, is it's going to pick up samples. It's going to put them in sample containers. They've got little sample containers,? explained Middleton, ?And it is going to drop the sample containers around on Mars as it wanders around.?

In 2026, plans call for NASA to launch another vehicle, called a Mars Assent Vehicle, which will go up and land on the planet. The idea is that it will be capable of launching back from Mars to Earth.

The plan at the moment, said Middleton, is that they'll be a SFR that will be launched in 2026 stored in the Mars 2026 vehicle. The objective of the SFR is to find the samples that have been dropped by Mars 2020, collect them all and bring them back ready to put in the Mars Assent Vehicle.

?These types of missions have been done before, where there's a sample return missions from asteroids and things like that, that have gone and picked up samples off the surface of an asteroid and fly them back to earth,? said Middleton.

Canada is currently involved in a mission to bring samples back to earth from an asteroid called Osiris Rex.

The current plan is that the CSA helps fund part of the Sample Fetch Rover, which is actually what the \$400K is awarded towards. However, the overall responsibility for the mission is in the hands of the European Space Agency, said Middleton.

Canadensys has had a contract with the CSA before, to do a study on the SFR. This follow-up study that the company is doing at the moment, will refine the engineering details of what Canadensys portion of the Sample Fetch Rover will be.

There is still no confirmation on how Canada will be involved in the SFR, said Middleton. However, Canadensys is under contract with the CSA to study the whole rover.

Canadensys Aerospace Corporation is a space system and services company with a focus on accessible space. Over the years, Canadensys has leveraged concept studies and early technology contracts that the company calls, robotic micro and nano-class systems, which include rover wheels, other rover parts and instrumentation and software.

Three employees who were ex MDA employees built Canadensys in 2014 and one of those three employees was Jim Middleton.

Middleton has over 40 years experience in space program development. Jim led the technical and programmatic development of the

robotic systems that assembled the international space station and was Vice President of Strategic Development at MDA for over a decade.