

CALIAN | SED

The Canadian Space Agency's flagship mission in Earth Observation, the Radarsat Constellation Mission (RCM) will be launching this week on a SpaceX rocket. RCM consists of three identical satellites, carrying a Synthetic Aperture Radar (SAR) payload, and is a follow-on mission to the highly successful Radarsat 1 and Radarsat 2 Satellites, whose heritage goes back to 1994. These Satellites, using Radar instead of optical imaging technology, have the distinct advantage of being able to image equally well in daylight and darkness, in cloudy or clear conditions. The images are very accurate, and with digital processing, can detect minute changes in the movement of the earth for example, to a few millimeters accuracy, which is useful in Earthquake assessments or changes to permafrost – only two examples among a host of other uses. SAR Imagery has been critical to many applications in Canada and worldwide, such as forestry, agriculture, ice monitoring, etc.

Launch Date: Wednesday, June 12th, 8:17 am Saskatoon Time

Location: Vandenberg Air Force Base, California

Launch Vehicle: SpaceX Falcon 9

Prime Contractor: MDA, Richmond BC (Overall mission)

Satellite: MDA - Payload and Final Satellite Integration

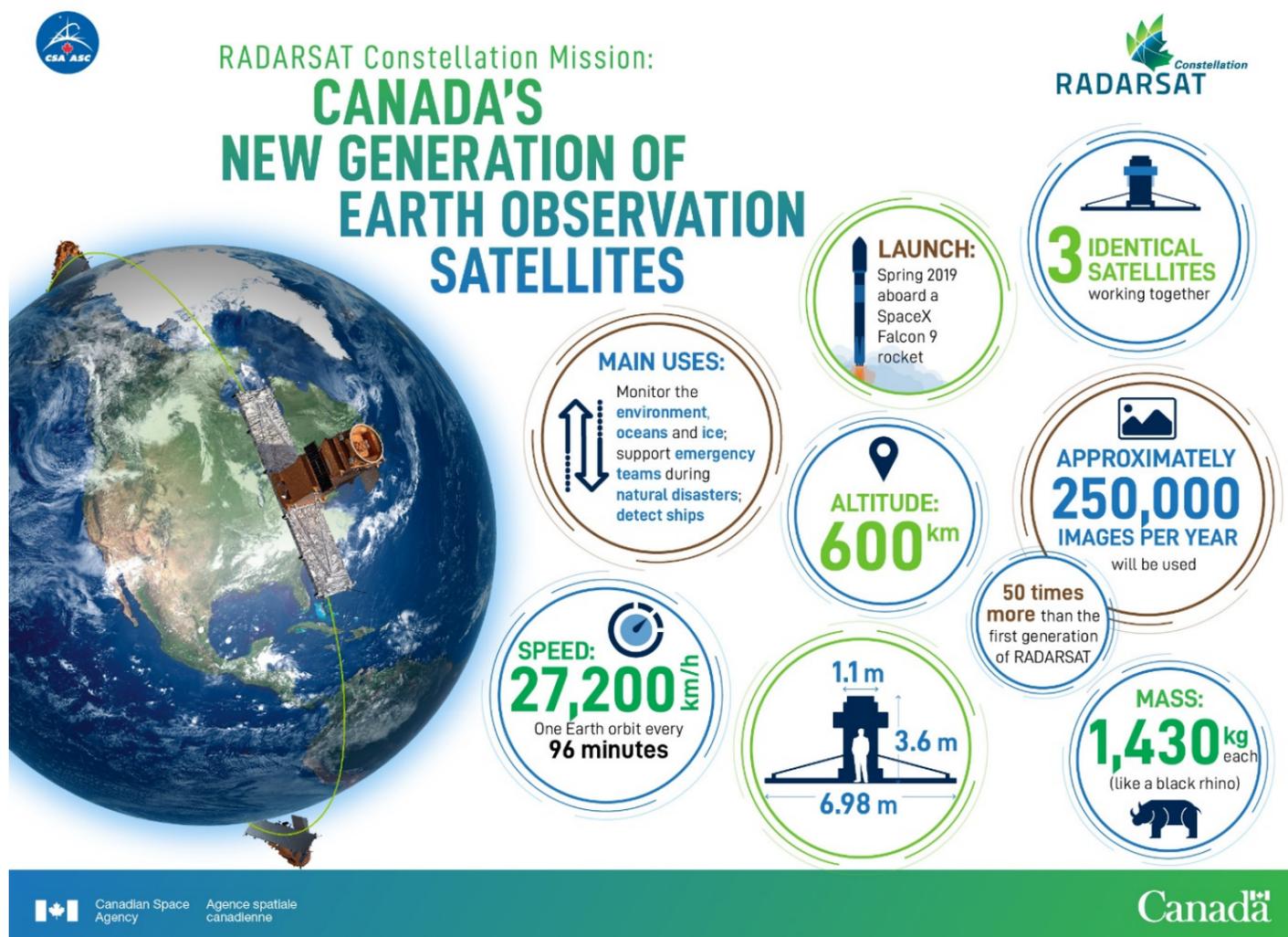
Bus: Magellan Aerospace, Winnipeg MB.

Secondary Payload: Automatic Identification System (AIS) – Honeywell, Cambridge, Ont.

You may wonder what relevance this has to Calian SED. First and foremost, Calian SED's Satellite Operations group in St. Hubert will be working with MDA for Operations of the RCM constellation during Launch and Early Orbit Phase, and ongoing routine operations, until Sept 2020. Our team of over 45 people, consisting of Satellite Engineers, Flight Dynamics Analysts, Operations Controllers, Planners, and Ground System Analysts will be the first line personnel operating this mission on a 24/7 basis, with CSA/MDA. Our team has been directly involved with the preparations to operate RCM from the moment the satellites are released from the Falcon 9 rocket, switching each satellite on, deploying solar panels and the huge SAR antenna, as well as maneuvering the satellites into their final orbit some 600 km above. An exhaustive series of tests and commissioning will take place afterwards, all of which will be supported by Calian SED.

Calian SED Saskatoon also developed the CCMEO ground stations in Prince Albert, Inuvik and Gatineau, which will be the primary stations for sending commands, and receiving Telemetry and Imagery from the RCM satellites. Finally, Calian SED provided dedicated RCM imagery reception stations to the Department of Defense.

All of Calian SED employees should be proud of the numerous contributions we have made to Canada's most important Earth Observation Mission yet!



More info is available at <http://asc-csa.gc.ca/eng/satellites/radarsat/information-kit/>