

SPACE TRANSPORTATION SOLUTIONS AND INNOVATIONS SYMPOSIUM (D2)
Launch Services, Missions, Operations, and Facilities (2)

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A EUROPEAN SMALL SATELLITES LAUNCH BASE AT ANDØYA SPACE CENTER

Abstract

The small satellite launch base aims at providing launch services for small satellites into Polar and near Polar orbits by upgrading the current Andøya Space Center (ASC) sounding rocket facilities. In 2015 ASC was granted an ESA contract for a Space Transportation market analysis and a European Commission grant for a small lift launch base concept design. The paper will shortly illustrate the current ASC facilities, including the TM and tracking stations, the payload and launcher processing halls, the control tower, etc. The most interesting outcomes of the ESA and EC activities will also be presented together with the possible developments of the ASC small satellites launch base, including the achievable orbits inclinations, the potential launch vehicles partners and mass vs. orbit altitude performances. Furthermore, a summary of the technical challenges of building a flexible and automated multi-vehicle launch facility will be presented. Andøya Space Center is located in northern Norway, within the Arctic Circle and precisely at 69 degrees latitude North. Despite its geographical location, Andøya has mild winter temperature, average temperature from November to March is -3 degC and yearly wind ground speed is 6 m/s. It is located six kilometers (3.7 miles) from the Andenes airport and has a nearby harbor, offering easy logistics solutions for air or sea shipments. ASC provides complete services for launch, operations, payload data acquisition, recovery and ground instrumentation support. The sounding rocket launch services are also offered from Svalbard, at 78 degrees latitude North. Andøya and Svalbard are the world's northernmost launch facilities for sounding rockets and more than 1000 sounding rocket launches have been conducted since 1962, reaching up to 1600 km altitude.