

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

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ANDØYA SPACE PORT – THE NORWEGIAN LAUNCH FACILITY FOR SMALL SATELLITES

Abstract

Andøya Space Center is establishing a commercially viable launch facility for small satellites, north of the Arctic Circle. The present paper summarises the current state of work, including a feasibility study and the preparations for a launch complex development on the island of Andøya.

Taking advantage of more than 55 years of experience in launching more than 1200 sub-orbital sounding rockets, Andøya Space Center is about to do the next step and enable the facility to perform orbital launches. This target will require substantial investments in new infrastructure, modification of operational procedures and logistics. However, the orbital capabilities shall be in operation within 2020. Both the Norwegian Government and the blooming Norwegian Space Industry (turnover of 7 BNOK pr. year) strongly support the initiative.

The paper presents the potential launch sites on Andøya Island and the ongoing work with zoning plans and environmental assessment. In addition, a preliminary analysis of the technical feasibility of such one selected site, is presented.

The island provides good launch conditions throughout the year. This is documented by meteorological data from the past 30 years and experiences from launching the more wind sensitive sounding rockets. Andøya Island is part of the Vesterålen archipelago, the part of Norway with the lowest probability of thunderstorms in Norway.

The location is favourable for access to sun-synchronous and polar orbits. Due to low frequented air-traffic routes and shipping traffic, the launch operations are less challenging than in areas where there is higher traffic. Infrastructures at Andøya and Svalbard offer the required coverage for near-field tracking. Possible ground track of flight trajectories is mostly over unpopulated areas. Preliminary analysis of achievable orbit inclinations is performed for a variety of launch vehicles and will be presented in this paper.

The island of Andøya is easily accessible for both crew and equipment with a large airport that can handle the biggest cargo planes available and two capable harbours, and by road from the mainland.

The Norwegian Space Law and regulatory framework is currently being adapted to the “New Space” era, and will play an important role in enabling Andøya Space Port to become an attractive orbital launch site of international format.