

# The space industry in Norway and Germany

A DESCRIPTION OF MARKETS AND OPPORTUNITIES FOR COLLABORATION



# The Norwegian space industry

The launch of the Ferdinand 1 rocket from Andøya in 1962 made Norway one of the first space-faring nations in the world. Norway is a small player internationally, but has cutting-edge expertise in some fields, as well as geographical advantages. Large ocean areas and a high level of natural resource extraction make Norway dependent on space capabilities to communicate, navigate and monitor – especially in the north. Norway participates in the European space market through the EEA Agreement, ESA and EU space programs.



## Market structure



#### Top heavy, with mainly small and medium-sized businesses

The Norwegian space sector consists mainly of small and medium-sized enterprises (SMEs), with some non-commercial players. The industry is top-heavy, with five players accounting for 71% of economic activity. According to a report by Oslo Economics, the Norwegian space sector consisted of 138 players in October 2023. This amounted to approximately 2,700 jobs and a total economic activity of about NOK 11.7 billion annually. Of this, NOK 11 billion is linked to commercial players, while NOK 700 billion can be linked to universities, institutes and agencies. <sup>2</sup>

#### Important actors reflect a strong degree of public-private partnerships

Due to high costs and close relationship with security policy, the sector is characterized by a strong public-private partnership. The public initiative is handled by **the Norwegian Space Agency**, which is an agency under **the Ministry of Trade**, **Industry and Fisheries**. The main tasks of the Space Agency are to advise the Norwegian administration and industry and follow up Norwegian participation in international space cooperation.<sup>3</sup> Another important public player is **Space Norway**, which is wholly owned by the

Ministry of Trade, Industry and Fisheries. Space Norway safeguards functions that require satellite information and sends satellite data to customers all over the world. Because of its connection to the defense sector, the sector is also characterized by the same "**triangular cooperation**" between public authorities, research institutions and the industry as the rest of the defense industry. This means that **FFI** (the Norwegian Defense Research Establishment) and **Ministry of Defense** are also important public players.<sup>4</sup>

On the industrial side, there are around 40 companies involved in space-related activities in Norway. The largest player is **Kongsberg Gruppen**, which has several space-related subsidiaries. For example, **Kongsberg Satellite Services** (KSAT) has a global network for downloading satellite data and a station in Svalbard for downloading data from polar satellites. **Kongsberg Defence & Aerospace** also collaborates with the Ministry of Trade, Industry and Fisheries to operate **Andøya Space**. Examples of smaller Norwegian players are **Bredengen** and **Tycho Space Technologies**. Important research institutions are **SINTEF**, **UiO CENSS** and **NTNU CIRIS**. Employers and employees in the space industry are also united in **the Tekna Space** network.

<sup>&</sup>lt;sup>1</sup> Norwegian Space Agency, "Norske rombedrifter omsetter for 11 milliarder."

<sup>&</sup>lt;sup>2</sup> Norwegian Space Agency.

<sup>&</sup>lt;sup>3</sup> Ministry of Trade, Industry and Fisheries, "Norsk Romsenter (NRS)."

<sup>&</sup>lt;sup>4</sup> FFI, "Norge trenger et nasjonalt romprogram."

<sup>&</sup>lt;sup>5</sup> Tekna, "Romfartsutdanning i Norge."

<sup>&</sup>lt;sup>6</sup> Tekna. "Nettverket Tekna Romfart."



#### A range of important multipliers

Among the multipliers is the innovation center **European Space Agency Business Incubation Center Norway (ESA BIC Norway)**. It is one of 29 innovation centers in the European ESA BIC network and gives Norwegian companies the opportunity for financing and collaboration with companies and investors in Europe. **The Norwegian Space Cluster** is also located at Kjeller Innovation. The Norwegian space industry is united in **the Norwegian Industrial Forum for Space Activities** (NIFRO).

### What is Andøya Spaceport?

Andøya Spaceport is a commercial launch base for small satellites. Andøya Spaceport is the first spaceport for launching small satellites in Europe, and the first launch site of the German rocket manufacturer Isar Aerospace. The facility will be fully completed in 2025 but is already ready for launches.

### What is Andøya Space?

Andøya Space AS is a center for launching research rockets, among other things. It is owned by Kongsberg Defence & Aerospace and the Ministry of Trade, Industry and Fisheries. It is located at Andøya in Nordland County.

Several factors make Andøya suitable for space activities: The island lies in the middle of the zone where the northern lights are most frequent, which makes it ideal for research on northern lights. Even though Andøya is far north, the climate is mild and suitable for launches. The sea outside never freezes and is a huge catchment area for the rockets, so researchers can choose many rocket trajectories. In addition, it's easy to get there, as there are good port conditions, road connections to Europe and an airport. Finally, the large uninhabited areas around the island make it possible to launch rockets without taking expensive detours.<sup>1</sup>

In 2018, the first all-Norwegian rocket was launched into space from Andøya. Launching satellites from Andøya has been discussed since the mid-90s and is now possible through Andøya Spaceport. The largest rocket launched at Andøya so far is around 7.5 tons, but there are plans for launches of around 100 tons.