

Annual Report

**SPACE  
NORWAY**

2020

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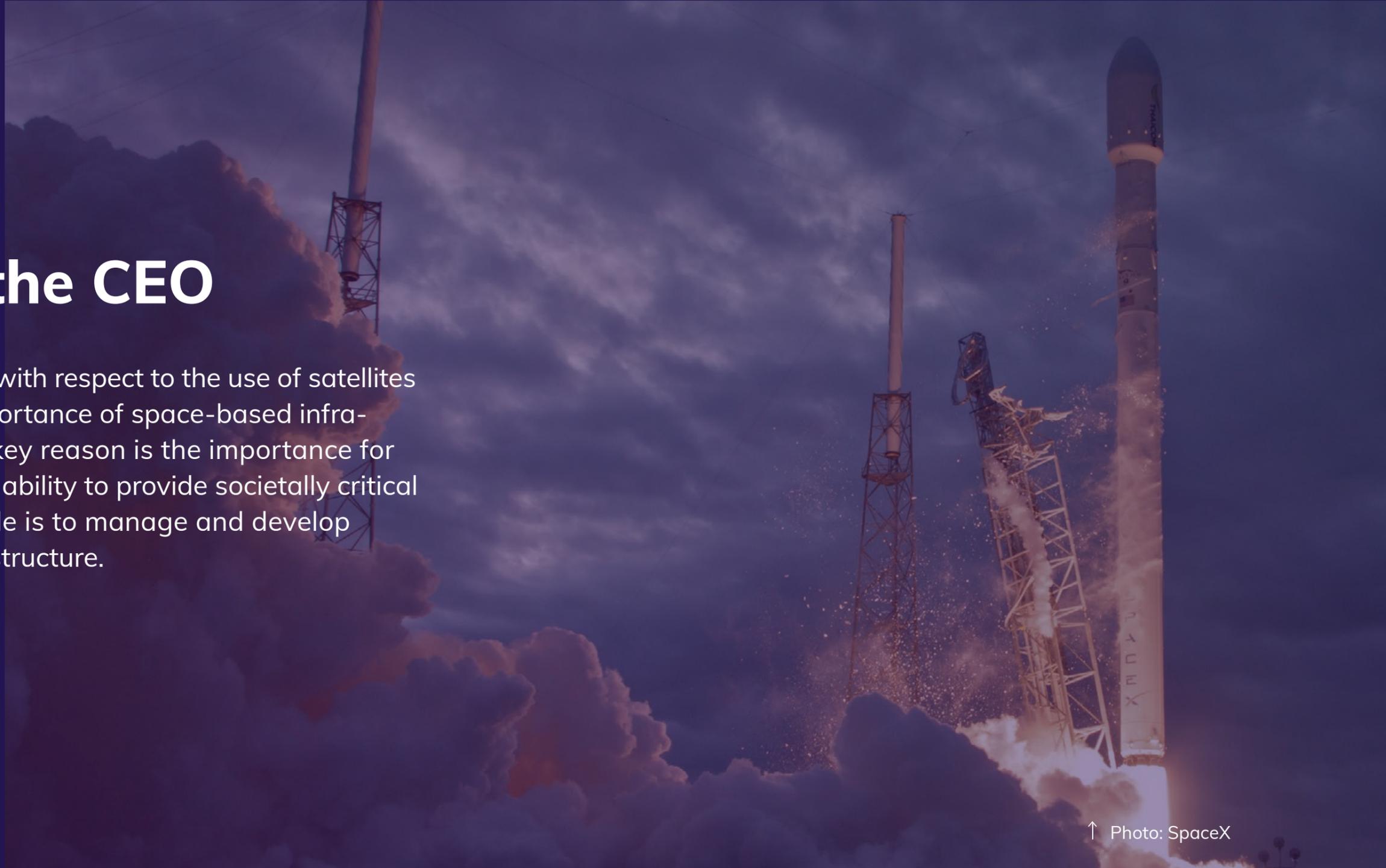
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## Introduction

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# Letter from the CEO

Norway was an early mover with respect to the use of satellites and space. The strategic importance of space-based infrastructure is increasing. One key reason is the importance for the exercise of authority and ability to provide societally critical services. Space Norway's role is to manage and develop strategic space related infrastructure.



↑ Photo: SpaceX

Norway was one of the first countries in the world to use satellites for national communication and broadcasting. The driving force behind this was that important societal and commercial needs could only be met by the use of satellites: reliable communication with Svalbard, oil & gas industry, shipping, TV broadcasting, positioning of platforms and a need for maritime surveillance in the Norwegian economic zone. Our geographical location in the High North was also ideal for effective operation of polar orbit satellites.

Today, satellites represent a critical and vital infrastructure for an increasing number of fundamental tasks. New capabilities for broadband communication, navigation and weather forecasting as well as environmental monitoring and earth observation has led most sectors to depend on satellite-based services. Consequently, the increased use and dependency of satellite-based systems, has also made our society more vulnerable to interruption of this infrastructure.

Norway's geographical extent and extensive territorial waters, as well as the High North, are strategically important. Norway has a significantly greater need for satellite-based capabilities than most other countries in Europe. Such capabilities are required to enforce sovereignty, provide communication and for surveillance of our areas of interest. The Norwegian Armed Forces are increasingly dependent on satellite capabilities to perform their duties. In its Report to the Parliament 10 (2019-2020), the Norwegian Government provided a review of the space sector which emphasised the strategic importance of outer space to Norway. This will only increase.

Space Norway is a state-owned company set up to build and develop strategic space-related infrastructures. These infrastructures form the basis for services that cover many requirements that are vital to the Norwegian society. That is an important mandate. To deliver on our mandate, Space Norway must understand future needs and requirements, maintain insight into available technological solutions and ensure robust capabilities to implement those solutions.

It is inspiring to see that the company's efforts provide tangible results and benefits for society. In this context, I would like to highlight three specific examples of our work in the past year.

### **Satellite-based broadband in the Arctic**

Geostationary satellites do not provide satisfactory coverage north of the 75° N parallel. Civilian and military users have called attention to unmet needs for reliable and secure broadband in the Arctic. Civilian needs revolve around communication solutions for shipping, aviation, search and rescue operations and commercial activities in northern areas. Norwegian and Allied Forces require secure and reliable communication solutions during operations in the Arctic. Space Norway reached an important milestone in 2019 when, after several years of preparation and analysis, we started the Arctic Satellite Broadband Mission (ASBM) programme. With an investment of approximately USD 450 million, this programme is Norway's largest satellite project to date. Satellite and ground infrastructure is planned to be operational by early 2023. Even with the constraints of the pandemic of 2020, the company's team under the management of Kjell-Ove Orderud Skare has made a fantastic effort to maintain the progress towards this goal.

« In the ASBM programme, Space Norway has taken the initiative to establish a Norwegian-controlled satellite constellation to provide reliable broadband to the Arctic. I am proud of the confidence that the Norwegian Armed Forces, the US Space Force and Inmarsat have shown us on this important programme. »



Jostein Rønneberg, Group CEO  
Photo: Nina Holtan | ninaholtan.no

Utilising our network, we have succeeded in incorporating payloads from three different user groups onto a single satellite platform. This provides significant benefits in terms of cost and performance for our partners in the ASBM programme. This synergy effect has made the programme possible.

### **Development of satellite-based radar surveillance in Norwegian waters**

Norway manages waters that are six times larger than our land area. Monitoring ships in these waters is demanding in terms of cost and resources. Norway represents NATO in the north and has a special responsibility for surveillance of these northern areas. Satellites are capable of monitoring and finding ships over extensive areas of ocean in a cost-effective way. In partnership with KSAT, FFI<sup>1</sup> and Norwegian technology companies we have developed a concept and a solution for ocean surveillance using small radar satellites. Preparation for a test and demonstration satellite is in progress. When the satellite performs as expected, it will contribute to a significantly improved maritime situational awareness and enhanced Norwegian Coast Guard's and Armed Forces' operations.

### **Development of systems for digitisation and increased safety of shipping**

VHF Data Exchange System (VDES) is a new digital communication platform based on development of the existing AIS system<sup>2</sup>. VDES is a two-way digital messaging between ships and ship-to-shore. VDES

includes a satellite component that enables seamless communication when ships are outside (VHF) terrestrial radio range. The system is in a testing and development phase. A fully developed VDES can contribute to both increased safety and to digitisation of the shipping industry. A great advantage is that the system can use the ship's existing VHF hardware, significantly reducing the cost. The Space Norway team has played a leading role in VDES system design and standardisation, in international allocation of frequencies, as well as in prototyping and testing. This has been done in close collaboration with Kongsberg Seatex, the Norwegian Space Agency, and the European Space Agency. The frequency spectrum is a limited resource, and frequency availability is a prerequisite for delivering satellite services. In partnership the Norwegian Communications Authority, Space Norway contributed significantly to securing necessary frequencies for VDES at the World Radio Conference in 2019, and we have a leading role in the further development of this system.

Space Norway's mission is to develop and operate strategic space infrastructure to meet important societal needs. Our main assignment is to design, plan, acquire, own and manage space-related infrastructure. In the recently published Report to the Parliament on electronic communication, Space Norway is described as an important part of Norway's basic digital infrastructure<sup>3</sup>. In order to achieve our mission, Space Norway depends on a highly qualified workforce with deep

<sup>1</sup> Norwegian Defence Research Establishment (FFI).

<sup>2</sup> Automatic Identification System (AIS) is an anti-collision system for shipping.

<sup>3</sup> Report to the Parliament 28 (2020-2021), our common digital foundations.



insights into a variety of topics like; understanding future user needs existing and developing technologies, and regulatory expertise. In addition excellent program and project management capabilities are essential to ensuring effective project execution. It is gratifying to see that Space Norway can attract skilled and motivated employees who contribute to successfully achieving our objectives. We enter 2021 with an order backlog for the group of more than NOK 7 billion. This is a solid platform for the future of our company and our ability to deliver strategic space-related capabilities. I look forward to a new inspiring year with our talented colleagues.

↑ The construction of the ASBM satellites is going according to plan despite the COVID-19 challenges. The picture is from the factory at Northrop Grumman Tactical Space in Dulles, Virginia. Left: Programme Director Jeremy Novosad from Northrop Grumman. On the right: Oddveig Tretterud, Space Project Director at Space Norway Heosat AS and manager of the company's Field Office in the United States. The cylinder shown in the picture is a 'thrust tube' with fastening devices for equipment built around it. The silver tank is an oxidation tank to be installed inside the cylinder and forms part of the satellite propulsion system.

# The Space Norway history

Norway was an early mover in adopting space technology, primarily because of the need for maritime communication and surveillance of large ocean areas. Norwegian space activities have been user-oriented and a tool for safeguarding Norwegian interests. Space Norway is the result of a forward-looking Norwegian Space Agency in an early phase of space exploration.

↑ Antennas for communication with satellites at the Tromsø Telemetry station in 1967.  
Photo: KSAT

## Some milestones from the Space Norway history

**1967**

Tromsø Telemetristasjon (TTS) was set up by Royal Norwegian Council for Scientific and Industrial Research to benefit from Tromsø's favourable geographic location for the download of data from satellites in polar orbits.

**1995**

The Norwegian Space Agency organises parts of its activities as limited liability companies. Tromsø Satellite Station was set up to manage operational activities, and the company Norsk Romsenter Eiendom (now Space Norway) was set up as the owner of the infrastructure.

**2003/04**

Svalbard is in a geographically advantageous location for downloading data from satellites in polar orbits. Efficient transfer of large volumes of data to the mainland became a prerequisite for enabling further development of the business. The Norwegian Space Agency therefore took the initiative to establish a 1,400-kilometre subsea fibre-optic cable connection between the mainland and Svalbard. Space Norway was given the assignment to establish the connection and is today the owner and operator of this important infrastructure. The fibre connection became operational in January 2004 and is now a prerequisite for KSAT's activities on Svalbard as well as for the Longyearbyen community in general.

**1987**

The Norwegian Space Agency (NRS) was set up in 1987 when Norway became member of the European Space Agency (ESA). TTS and its activities were incorporated into the Norwegian Space Agency in 1991.

**2002**

In 2002 Space Norway de-merged its Svalbard satellite infrastructure business into a new subsidiary named Satellite Services. This company subsequently merged with Kongsberg Gruppen's activities on Svalbard and the merged company was named Kongsberg Satellite Services (KSAT). Since its formation in 2002 KSAT has been a 50/50 joint venture between Space Norway and Kongsberg Gruppen.

**2013/14**

The company is formally given its current name, Space Norway. At the end of 2013, the ownership of Space Norway is transferred from the Norwegian Space Agency to the Norwegian Ministry of Trade, Industry and Fisheries.

**2016**

KSAT and Space Norway launch a pre-project to develop a new satellite-based radar system for ocean surveillance.

**2019**

Space Norway finalized all contracts for and initiates the Arctic Satellite Broadband Mission (ASBM), an important milestone in the company's history. With an investment budget of approx. USD 450 million, ASBM is the largest satellite programme rolled out in Norway. Two satellites in a highly elliptical orbit will provide broadband coverage north of 65° N parallel. Launch of the satellites is planned for late 2022 carried by a SpaceX Falcon 9 rocket.

**2005**

Space Norway finances the first antenna for satellite communication with the Troll Station in Antarctica.

**2015**

Space Norway acquires a transponder on Telenor's Thor 7 satellite dedicated to a communications link with the Troll Station in Antarctica. This enables KSAT to down-link information from satellites passing over the South Pole. Space Norway worked with KSAT and Telenor Satellite in 2013/2014 to realise the solution which included a dedicated capacity on board Telenor's Thor 7 satellite. The communications link is leased to KSAT which is the only operator able to offer communications with satellites at both the North and South Poles.

**2018**

The Norwegian Parliament approves conditional equity financing for the Arctic broadband project.

# Satellite constellation for broadband in the Arctic

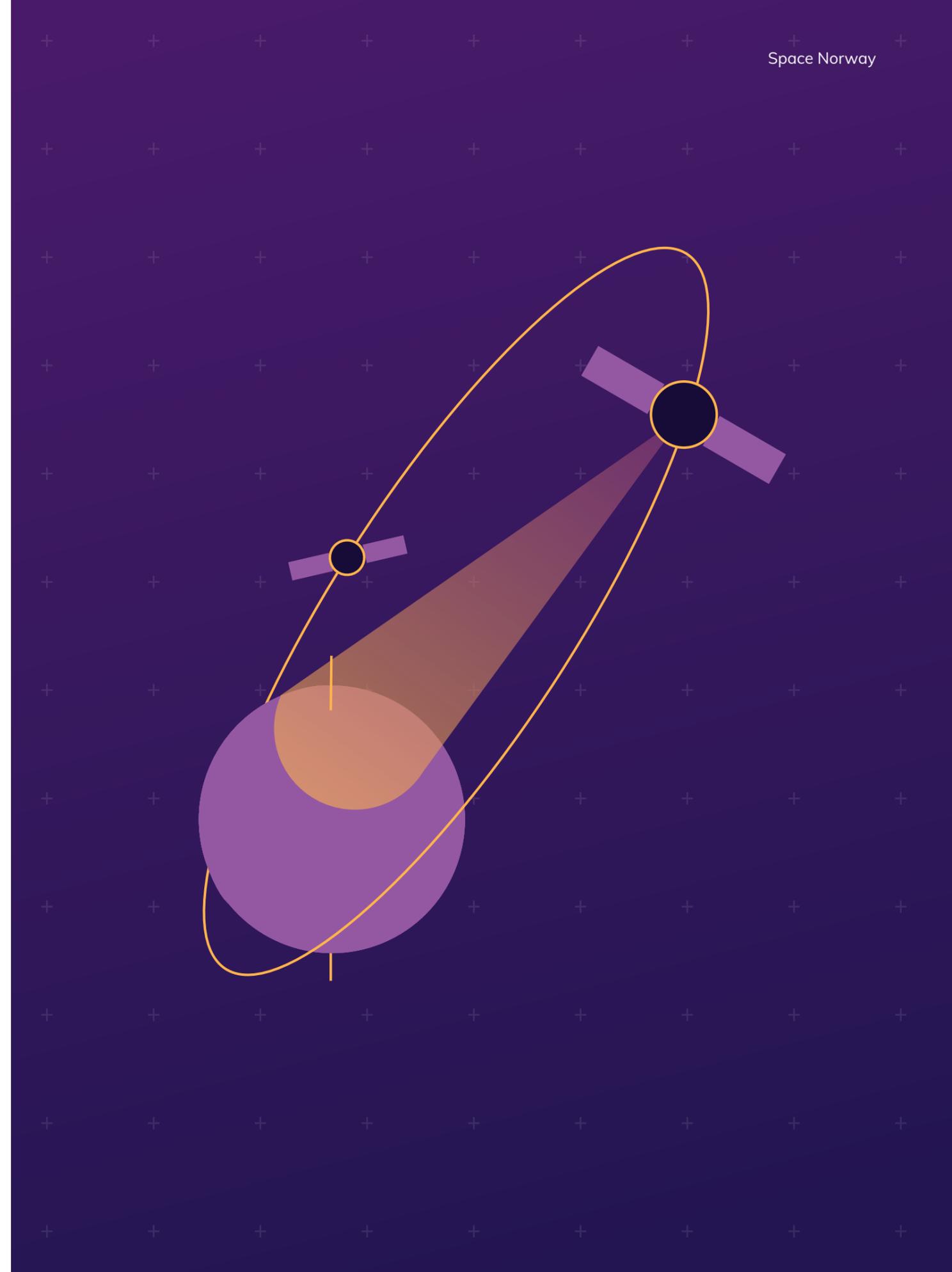
Traditional solutions for broadband communication via satellite are mainly based on geostationary satellites. These are satellites that are located above the equator and provide communication coverage to large parts of the Earth's surface. Communication via satellite requires that the user terminal has a clear view of the satellite. In areas north of the 75° N , geostationary satellites are too low above – or even below – the horizon that communication does not work. Broadband via satellite in these areas has therefore not been possible. Space Norway's new satellite constellation in a highly elliptical orbit over the Arctic is about to change this.

Reduced ice coverage has led to increased shipping traffic and other activities in the Arctic. It is estimated that up to 80% of all shipping traffic in the Arctic takes place in waters within the Norwegian economic zone or within the responsibility zone for search and rescue missions. Several nations are increasing their activities in the Arctic, and the geopolitical and environmental significance of the area is increasing. For decades, there has been an unmet need for satellite-based broadband communications in the Arctic. In partnership with the Norwegian Armed Forces, Inmarsat and the U.S. Space Force, Space Norway will now establish such communication services.

On announcement of the ASBM programme, CEO of Space Norway Jostein Rønneberg stated:

*“ In close collaboration with Inmarsat, the authorities in Norway and the United States, we are now establishing a strategically important capacity for everyone operating in the Arctic and requiring reliable access to broadband communication. Our focus in this programme is the value it creates for users such as fishermen, scientists, rescue services, the coastguard, our own and allied armed forces and others.”*

For many years Space Norway has worked on the study, assessment and financing of satellite-based broadband in the Arctic. The Arctic Satellite Broadband Mission (ASBM) programme was given the go-ahead in 2019. Space Norway will own and operate the satellite system and is responsible for system specification, design, procurement and program management. The investment budget is approx.



USD 450 million (approx. NOK 3.8 billion). So far, ASBM is the largest satellite programme ever rolled out in Norway. The programme is fully financed by a combination of equity, bank loans and prepayment from our partners.

Construction of the satellites at Northrop Grumman's plant in Dulles, Virginia, began in 2019, and the satellites are scheduled to be operational early 2023. The satellite constellation consists of two satellites that will be launched into a highly elliptical orbit over the Arctic. The lowest and highest points of the orbit above Earth will be 8,100 and 43,500 kilometres respectively. Each orbit for the two satellites takes 16 hours, and each satellite will provide broadband coverage across the Arctic for up to ten hours per orbit. Together, the two satellites will provide continuous 24/7 broadband north of 65° N.

The satellites are about the size of a van (approx. 3m x 3m x 4m) and weigh 2 tons each without fuel. With full fuel tanks, the two satellites weigh a total of 7,200 kilos when launched. Each satellite measures 27 metres end to end when its solar panels are unfolded.

The satellites carry payloads supporting our three partners Inmarsat, the US Space Force and the Norwegian Armed Forces. An agreement has been signed with SpaceX for launch with a Falcon 9 launch vehicle. Launch from the Vandenberg Air Force Base in California is scheduled for the end of 2022.

In an agreement with Space Norway, KSAT will establish the ground segment, including the construction of six new nine-meter antennas for communication with the satellites.



↑ Falcon 9 during launch.  
Photo: SpaceX

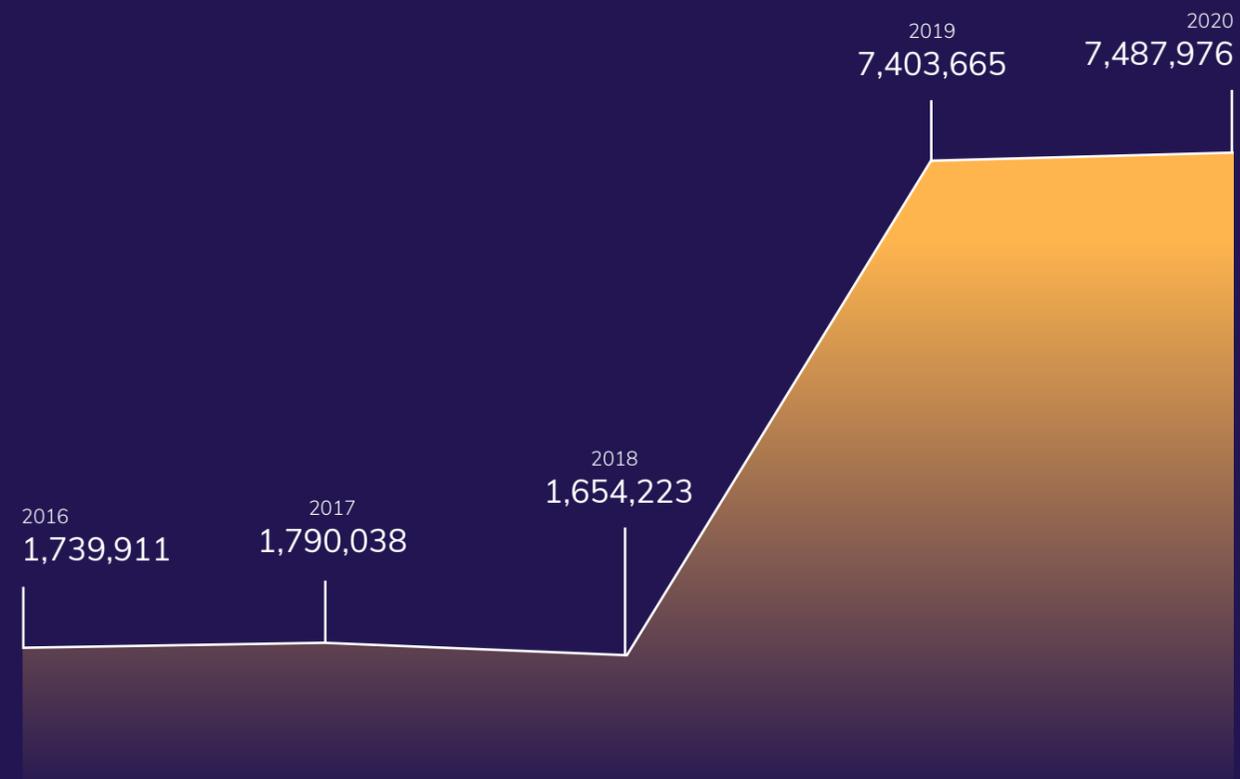
The Falcon 9 rocket from SpaceX is the world's first reusable launch vehicle. Lifting capacity to geostationary transfer orbit is 8.3 tons, and for low orbit (550 km) it is more than 22 tons. The rocket is 70 metres tall and has a diameter of 3.7 metres. The satellites are placed inside a capsule (fairing) measuring 13 x 5.2 metres on top of the rocket.

Launch is performed in two stages. The first stage is powered by nine Merlin engines using liquid oxygen and kerosine. The second stage is powered by one Merlin engine that can be started and stopped multiple times and is used to place the satellites in the correct transfer orbit. From there, the satellites will move into orbit using their own fuel system. This manoeuvre takes approx. 10 days.

## Key figures for the group\*

↑ 3,413,395 Total assets	↑ 898,284 Total equity	↓ 3% Operating margin
↑ 39 Employees	↓ 87,945 EBITDA	↓ 104,015 Net income

### Development in the group's order backlog



\*All numbers in NOK 1000

### Companies in the group

**STATSAT**  
Statsat AS

100% ownership

**HEOSAT**  
Space Norway  
HEOSAT AS

100% ownership

**KSAT**  
Kongsberg Satellite  
Services AS

50% ownership

### Key figures for the group, P&L statement\*

	2016	2017	2018	2019	2020
Revenues	358,946	426,556	476,029	513,684	547,383
EBITDA	106,877	137,769	131,301	178,754	87,945
Operating profit	66,237	87,739	75,080	111,900	15,825
<b>Net income</b>	<b>46,768</b>	<b>34,638</b>	<b>41,639</b>	<b>109,675</b>	<b>104,015</b>
EBITDA margin	30%	32%	28%	35%	16%
Operating margin	18%	21%	16%	22%	3%
Earnings per share	18.0	13.3	16.0	42.2	40.0
Return on equity	10.3 %	7.4 %	8.2 %	19%	14%
<b>Order backlog</b>	<b>1,739,911</b>	<b>1,790,038</b>	<b>1,654,223</b>	<b>7,403,665</b>	<b>7,487,976</b>

Accounting figures for 2020 with comparable figures for 2019 have been audited. Accounting figures for 2016-2018 have been restated according to current consolidation principles to show historical development. The company accounts for 2016-18 have been audited, but the pro-forma restated figures for 2016-2018 presented in the tables have not been audited.

\*All numbers in NOK 1000

Key figures for the group, financial position*	2016	2017	2018	2019	2020
Total non-current assets	450,062	473,195	530,914	1,298,910	2,462,047
Of which construction in progress	-	-	-	697,665	1,802,389
Total current assets	302,368	309,128	323,633	547,291	951,349
<b>Total assets</b>	<b>752,430</b>	<b>782,323</b>	<b>854,547</b>	<b>1,846,200</b>	<b>3,413,395</b>
<b>Total equity</b>	<b>452,905</b>	<b>487,779</b>	<b>530,248</b>	<b>639,978</b>	<b>898,284</b>
Annual investments in new infrastructure	-	73,164	112,088	834,849	1,234,258
<b>Equity ratio (%)</b>	<b>60%</b>	<b>62%</b>	<b>62%</b>	<b>35%</b>	<b>26%</b>

Accounting figures for 2020 with comparable figures for 2019 have been audited. Accounting figures for 2016-2018 have been restated according to current consolidation principles to show historical development. The company accounts for 2016-18 have been audited, but the pro-forma restated figures for 2016-2018 presented in the tables have not been audited.

Selected key performance indicators (KPIs)*	2016	2017	2018	2019	2020
Uptime Svalbard fibre connection	100%	100%	100%	99.995 %	100%
Uptime AIS satellites	97.7 %	97.2 %	92.0 %	96.1 %	98.7 %
Uptime satellite connection to Antarctica	100%	100%	100%	100%	100%
Non-current assets per employee	9,669	7,181	5,767	30,341	49,155
Operating expenses in % of non-current assets	51.1 %	53.4 %	79.0 %	10.3 %	8.2 %
Sickness absence rate	3.3 %	2.6 %	1.2 %	2.3 %	2.0 %
<b>Number of employees, year end</b>	<b>15</b>	<b>19</b>	<b>22</b>	<b>27</b>	<b>39</b>

Key figures for Space Norway and its subsidiaries in which the company has a controlling interest. KSAT, the joint venture, is not included in the table above.

\*All numbers in NOK 1000

## Definitions

EBITDA: Earnings before interest, taxes, depreciation and amortisation

EBITDA margin: EBITDA / revenues

Operating margin: operating profit / revenues

Earnings per share: Net income / number of shares in parent company

Return on equity: Net income / average book equity

Order backlog: orders based on contracts entered into that have not been effected at the time of reporting. For the group, the gross profit method is also applied as a basis for calculating the order backlog so that it includes 50% of the order backlog in the joint venture KSAT. For contracts in foreign currency, conversion to Norwegian kroner is based on the exchange rate as of 31 December

Equity ratio: book equity 31 December / total assets 31 December

Fixed assets per employee: (book value of fixed assets – financial fixed assets) / number of employees at the end of the year

Operating expenses in % of fixed assets: operating expenses excluding depreciation and write-downs in % of the book value of fixed assets at the end of the year

# 2

## **This is Space Norway**

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# The importance of the space industry to Norwegian society

Space Norway's assets and operations includes technology and infrastructure in an area where the Norwegian Government has a need for control and supervision. Space Norway is 100% owned by the Norwegian Ministry of Trade, Industry and Fisheries and represents a key part of the Norwegian Government's activities and assets in the space sector. This chapter provides a brief description of operations and assets in the group.



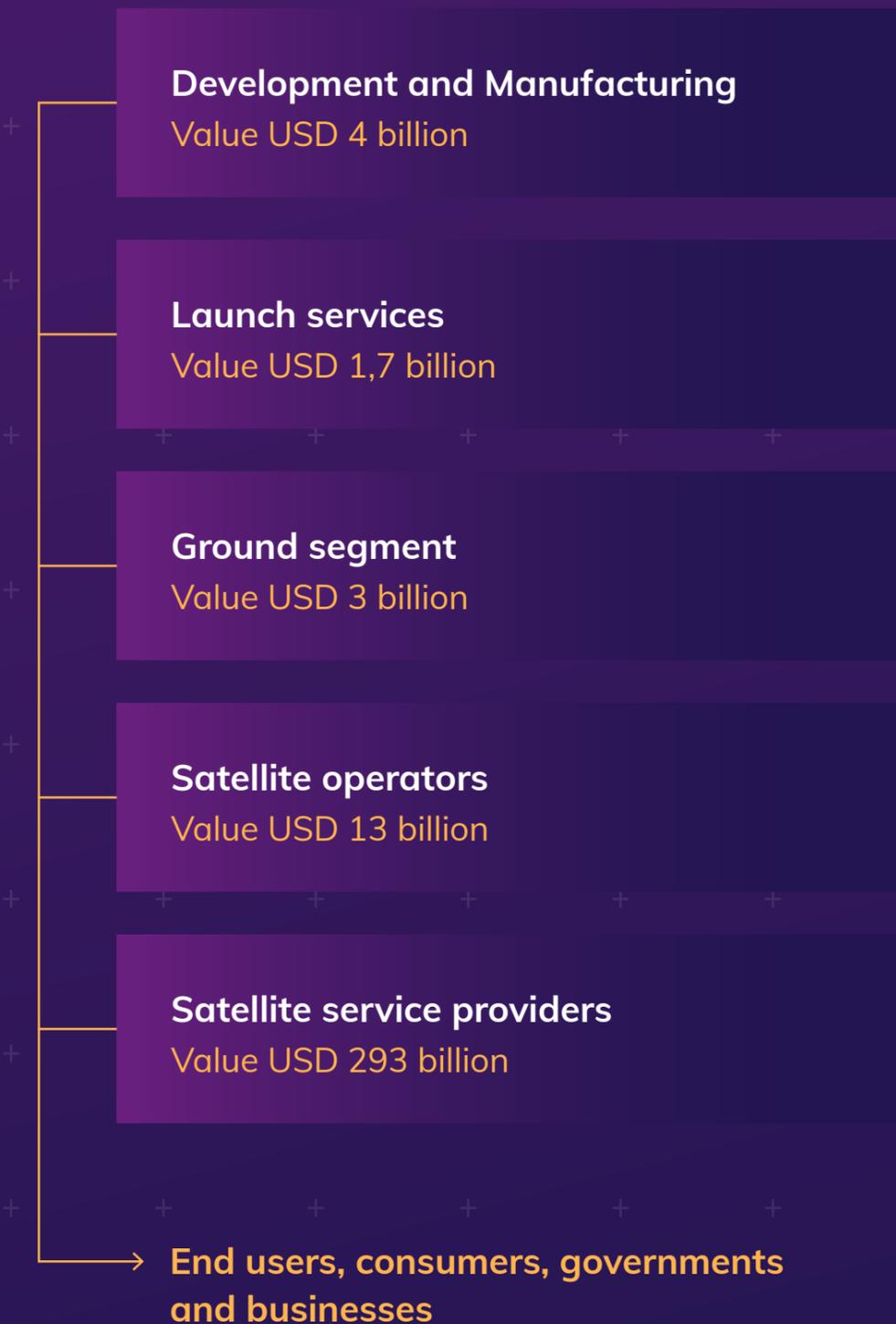
↑ Photo: Northrop Grumman

## Value chain for satellite-based services

A range of important and critical functions depend on information from satellites. Examples are navigation, communication and broadband in areas without terrestrial networks, dissemination of emergency messages, television broadcasts, rescue services, weather forecasts, surveillance of land and sea and military purposes. The consulting firm Euroconsult estimates the value of the satellite industry globally to be USD 385 billion, of which government activity represents USD 70 billion. The commercial segment showed a reduction of approx. 2% in 2020, which is assumed to be mainly due to the COVID-19 pandemic. The government segment however, increased by approx. 10%. In The Space Economy Report 2020, Euroconsult presents the space industry value chain as shown to the right<sup>4</sup>.

Space Norway's role is to manage and develop strategic space infrastructure to serve important Norwegian societal needs. In the value chain above, Space Norway is a satellite operator. This part of the value chain is characterised by large and complex development projects, long-term customer contracts, significant invested capital, and a relatively low return on capital employed (ROACE). Space Norway provides infrastructure services at wholesale level to a limited number of major customers, who in turn serve a wide range of end customers. Through the jointly controlled company KSAT, the group is also represented in the ground segment and downstream information processing and product delivery. KSAT is the world's largest provider of ground station services for communicating with, controlling and downloading data from satellites in polar orbits.

<sup>4</sup> Euroconsult, The Space Economy Report 2020, <https://www.euroconsult-ec.com/node/625>



## The importance of the space industry to Norwegian society

Norway was an early mover with respect to the use of satellites and space. This was partly due to our special geographical situation and specific user needs. Maritime safety and ocean surveillance were particularly important user requirements. In 1974, with the acquisition of the first domestic satellite system in Western Europe, Norway became the second country to establish satellite television broadcasting and was for a long time the leading country in Europe within maritime satellite communications. Following the establishment of the Norwegian Exclusive Economic Zone in 1977, Norway also became a pioneer in utilising radar satellites to search for ships and oil spills through cloud cover and in the dark.

The strategic importance of Space-based infrastructure is increasing. One key reason is the importance for the exercise of authority and ability to provide societally critical services. As a result of developments and changes to the space sector, the Norwegian Government published an updated strategic space policy review in 2019<sup>5</sup>. The previous space policy review was released in 2013<sup>6</sup>.

<sup>5</sup> Report to the Parliament 10 (2019-2020) High-flying satellites – down-to-earth uses.

<sup>6</sup> Report to the Parliament 32 (2012-2013) Between heaven and earth: Norwegian space policy for business and public benefit.

« The fact that the Norwegian Government chooses to publish a new strategic review now is due to the current rapid development in the space sector, the strategic importance of space and satellite-based services for Norwegian society, and the strategic importance of space for the Armed Forces, civilian life and future value creation.»

Report to the Parliament 10  
Chapter 1

In the report, the Government emphasises that Norwegian public investment in space is a tool for leveraging Norwegian interests. The review defines the following four goals for Norwegian space activities:



Society's dependence on electronic communications infrastructure, including satellite-based communications, is increasing. The Space Review states that space infrastructure is playing an increasingly important role in safeguarding basic national functions, and potential interruptions in this infrastructure may therefore have serious consequences.

The strategic importance of the space sector is expected to increase in the future. Norway must be able to identify its own user needs, develop solutions and control infrastructure of particularly wide-ranging national importance. The review emphasises that the space industry by itself represents a strategic competence base for safeguarding critical functions for the nation.

The importance of national ownership and control of space infrastructure is recognised in most countries. The COVID-19 pandemic and the actions of some nations to secure scarce goods in times of crisis, serve as a reminder that the importance of national control is often not clear until a crisis occurs. The ASBM programme under the auspices of Space Norway is highlighted in the Space Review as an example of national self-sufficiency.

# Space Norway's strategic priorities

Space Norway's assets and operations includes technology and infrastructure in an area where the Norwegian Government has a need for control and supervision. The company is 100% owned by the Norwegian Ministry of Trade, Industry and Fisheries and represents a key part of the Norwegian Government's activities and assets in the space sector. As part of the control mechanisms, the company has been made subject to the Norwegian Security Act.

Space Norway is a company in which the Norwegian Government's priority as owner is to attain the most cost-effective provision of services and objectives. The company is financed entirely through own income and it does not receive grants from the Norwegian Government.

The state ownership report (Report to the Parliament 8 (2019-2020)) emphasises the purpose of the Norwegian Government's ownership:

“ The Norwegian Government's reason for its ownership of Space Norway is the management and continued development of security-critical space-related infrastructure supporting important Norwegian societal needs. The Government's aim as owner is to offer cost-effective and properly managed space-related infrastructure supporting important Norwegian societal needs.”

The company's overall strategic priorities are based on the above defined purpose and are briefly discussed below.



↑ Illustration of NorSat-3:  
Norwegian Space Agency

### **Establish and develop strategic space related infrastructure**

The group's mandate is to provide services for important Norwegian civilian and military functions. The group's success requires both comprehensive technological insight as well as a good understanding of future user requirements and Norwegian political priorities. The Space industry is experiencing increased activity and is characterised by a high rate of innovation. A good understanding of tomorrow's technology is therefore required to make the right investment decisions today.

In the coming years, a significant increase in the number of active satellites is expected, especially small satellites in low earth orbit (LEO<sup>7</sup>). Rights to the use of frequencies for satellite communication is an important topic, and the strategic value of existing satellite systems with allocated frequency rights is expected to increase in the future.

### **Cross-sector partnerships**

Norwegian users of space related services cover a wide range of civilian and military entities. Development of single purpose satellites are often discouragingly expensive. Space Norway's expertise and its national and international relations enables development of tailored 'dual/multi use' solutions by joining needs from different users on a single platform. This can represent significant savings in terms of reduced investment (CAPEX) per user/function. In this regard, the ASBM programme serves as a good example. In this programme Space Norway has combined commercial broadband with military payloads for the US Space Force and the Norwegian Armed Forces. Without Space Norway's

<sup>7</sup> LEO means Low Earth Orbit and represents a distance of up to 2,000 kilometres above the Earth's surface.

facilitation of this partnership, the Arctic broadband capabilities would be significantly more expensive for the users of the system.

### **Safe operations of space-related infrastructure**

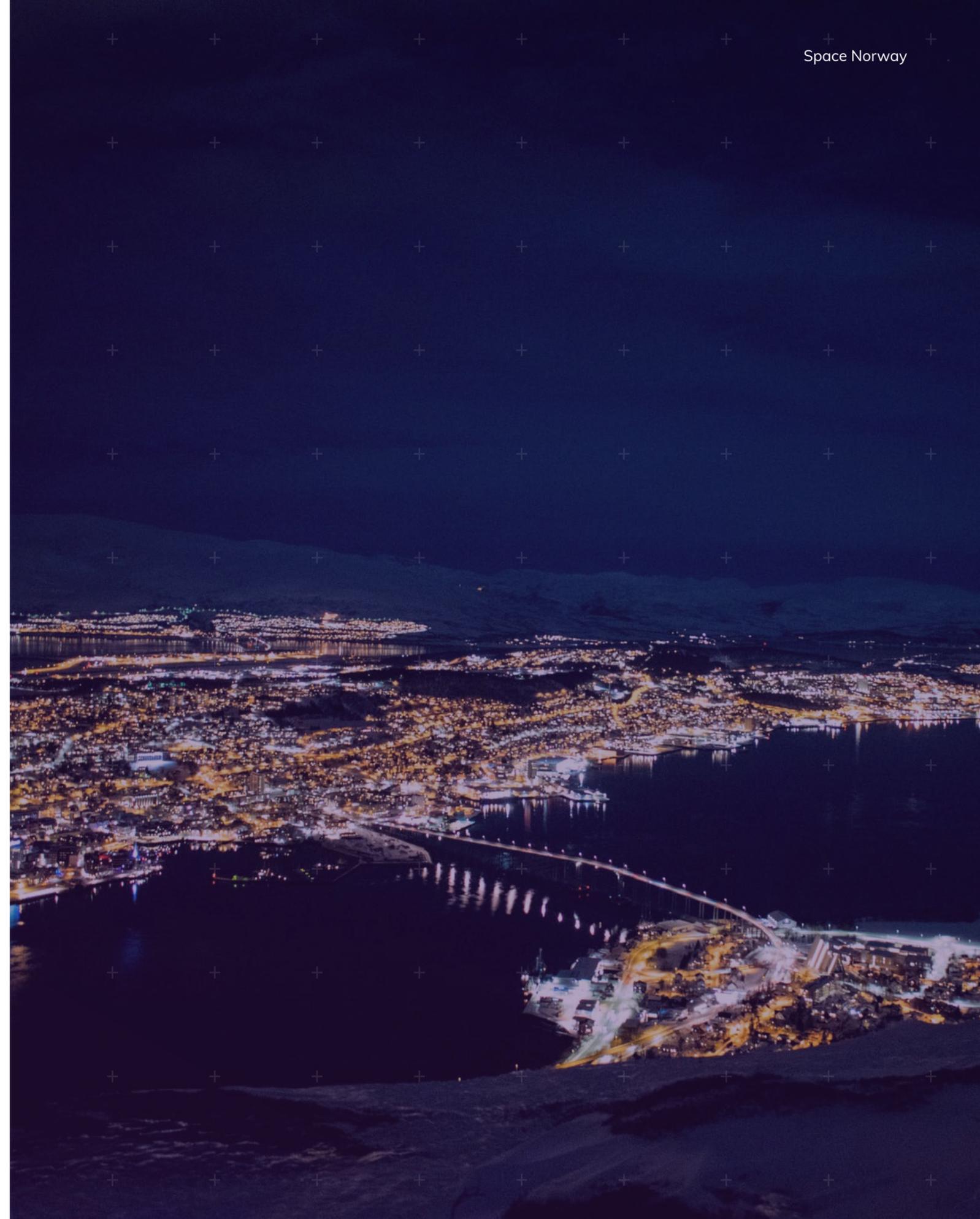
Satellite services are used in many important functions such as rescue services, communications, navigation, defence, earth observation and surveillance. Interruptions or loss of satellite services could have major consequences for life and health and could also lead to extensive economic losses. The importance of outer space in the implementation of security policies is increasing. In this respect Norway has a special responsibility in the High North. Space Norway is responsible for space infrastructure that supports long-term bilateral Norwegian obligations. Furthermore, Space Norway's activities are subject to the Norwegian Security Act and the Norwegian Electronic Communications Act. This requires high standards within a range of security related topics and it requires an active risk management approach. The group's expertise related to strategic matters, risk assessment and security measures is high and such efforts are expected to increase in the future.

### **Efficient operations**

The space industry in general is characterised by a need for large investments and the need for a highly skilled workforce. A high level of expertise is a prerequisite for the ability to develop new solutions. Space Norway is growing. The ASBM programme in particular represents a significant growth boost. Continuous streamlining of the organization is a priority, and gradually increased efficiency is expected as the group continues to grow. Access to equity and debt for financing new programmes will be of key importance to achieving the group's strategic goals.

## Contributing to the development of Norwegian technology and space industry

The national space review emphasises the strategic importance of space and satellite-based services for the Norwegian society at large, as well as its strategic importance for military purposes. Priorities are to support Norwegian foreign, security and defence policy interests in space, ensure acceptable security of important space infrastructure, deliver solutions that meet societal and user needs, and to promote profitable businesses. Space Norway contributes to the fulfilment of the objectives of the national Space Strategy, e.g., by contracting qualified Norwegian subcontractors and promoting growth for the national space industry. Furthermore, the programmes contribute to national self-sufficiency and provides strategic capabilities under Norwegian control. In the ASBM programme Space Norway has entered into a significant agreement with KSAT for establishing and operating the ground segment of the programme. This alone is creating 13 new jobs in Tromsø. Under ASBM, Space Norway has facilitated the inclusion of a Norwegian Radiation Monitor (NORM), developed and built by the Norwegian high tech company Integrated Detector Electronics AS. An agreement has been set up with the European Commission regarding data services from NORM. This data is of great importance for the next generation Galileo mission.



# The Svalbard fibre optic cable connection

The story behind the world's northernmost subsea fibre connection.

Svalbard has an ideal geographical location for downloading data from satellites in polar orbits. SvalSat, the Svalbard satellite ground station at 78 degrees north, is the northernmost ground station in the world and started operation in 1997. However, development of the business depended on efficient transfer of large volumes of data to the mainland.

↑ Photo: Subcom

The station is located at Platåberget outside Longyearbyen. Satellite data were initially transmitted to customers via a geostationary satellite. However, small capacity for data transmission via satellite was a limiting factor. Around 2001, it became clear that SvalSat's future development was entirely dependent on the efficient transfer of large volumes of data to the mainland.

At this time, SvalSat was part of Norsk Romsenter Eiendom AS (later renamed Space Norway AS), a company owned by Stiftelsen Norsk Romsenter (NRS). NRS was concerned that SvalSat would lose out on commercial opportunities because of the lack of fibre connection to mainland Norway. NRS believed that a subsea fibre connection would be essential to ensure the future development of SvalSat's activities. The telecommunications operator at Svalbard saw no commercial basis for investing in an approximately 1,400-kilometre subsea fibre optic cable connection. In 2002, NRS initiated its own assessment and planning of a fibre connection from Longyearbyen to the mainland, with the objective of establishing such connection without any government financing.

With Space Norway as a tool, NRS succeeded in this project. Financing was secured through a combination of long-term contracts, debt, prepayments from key customers, and funding from Space Norway. Customers and partners included NASA, NOAA, KSAT, Andøya Space, Telenor and Uninett<sup>8</sup>. The construction was done in 2003 and the fibre connection became operational in January 2004.

<sup>8</sup> NASA is the National Aeronautics and Space Administration, and NOAA is the National Oceanic and Atmospheric Administration, a department under the United States Department of Trade. KSAT is Kongsberg Satellite Services.



SvalSat, KSAT's station on Svalbard, currently has more than 100 operational antennas. Photo: KSAT

The fibre connection has been of important strategic value for the growth and development of KSAT. SvalSat is now the world's largest ground station for downloading data from satellites in polar orbits. Today, both KSAT and Space Norway are two successful spin-off businesses from NRS (Norwegian Space Agency).

The fibre connection consists of two separate cables that connect Longyearbyen to mainland Norway. The distance of approx. 1,400 km corresponds roughly to the distance between Oslo and Paris. The cables are buried approximately 2 metres in selected areas to protect against destruction by fish trawling and anchoring of ships. The sea depth reaches as much as 1,670 metres just west of Svalbard. At the time of construction, it was the world's deepest fibre-optic cable. Tyco Communications (now SubCom) was the contractor for the project. The anticipated technical service life of the cables is 25 years. It is now 17 years since the cables became operational. The operating history of the Svalbard connection has been excellent with few incidents that have led to interruptions of the service. During the period 2018-20, Space Norway has carried out significant security related upgrades to the fibre connection.

The primary motivation for establishing the fibre-optic cable in 2004 was to ensure the growth and development of the satellite business at SvalSat. Today, the fibre connection also represents a critical resource for the society at Svalbard and enables modern electronic communication services. These are services necessary to maintain and develop society as well as Norwegian presence on the archipelago. The fibre connection is considered part of the national critical infrastructure.



National and international companies and entities depend on a functioning fibre connection to Svalbard. Information downloaded at SvalSat and distributed via the fibre connection is important for a number of purposes such as weather forecasting services, surveillance of shipping traffic, environmental monitoring, development of ice maps for the Arctic and communication services in the critical phase of rocket launches<sup>9</sup>. The connection is also important for KSAT's contribution to Galileo, Europe's satellite-based navigation system<sup>10</sup>. Space Norway offer transmission capacity at wholesale level to a small number of customers, who in turn provide communication services in the retail and commercial markets. End customers and users of the fibre connection include a wide spectre of businesses: the society in general, the coastal radio service, Helsenett, Avinor, the Governor of Svalbard, including police and SAR resources, local government in Longyearbyen, the Norwegian Coastal Administration with services for maritime security, EUMETSAT<sup>11</sup>, NASA, NOAA, Galileo, Iridium, ESA, the Norwegian Mapping Authority as well as university and research units in the archipelago such as UNIS, the Nansen Environmental and Remote Sensing Center and the Norwegian Institute of Marine Research etc.

<sup>9</sup> LEOP, Launch and early operations phase.

<sup>10</sup> Galileo is a satellite navigation system set up by the European Union and the European Space Agency. The system has been designed as an alternative to the military and American-controlled Global Positioning System (GPS) and the Russian GLONASS.

<sup>11</sup> EUMETSAT is the European organisation for meteorological satellites.



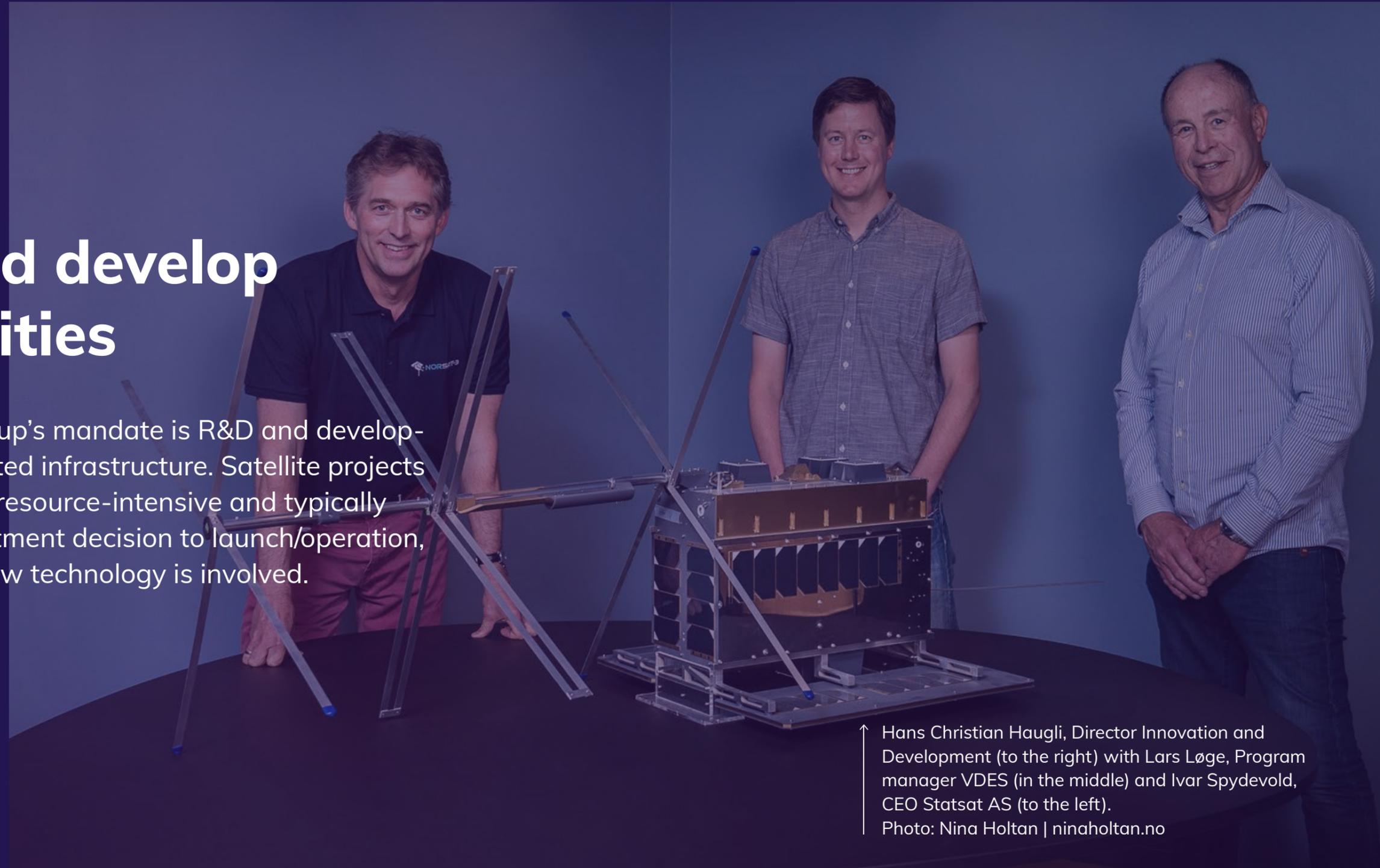
# Business units

Activities in Space Norway have increased significantly in recent years, in line with the development and implementation of several important space programmes. Operations are split into two business units, a) establish and develop new capabilities and b) management and operation of space-related infrastructure. The group's main activities at the end of 2020 are illustrated in the figure.



# Establish and develop new capabilities

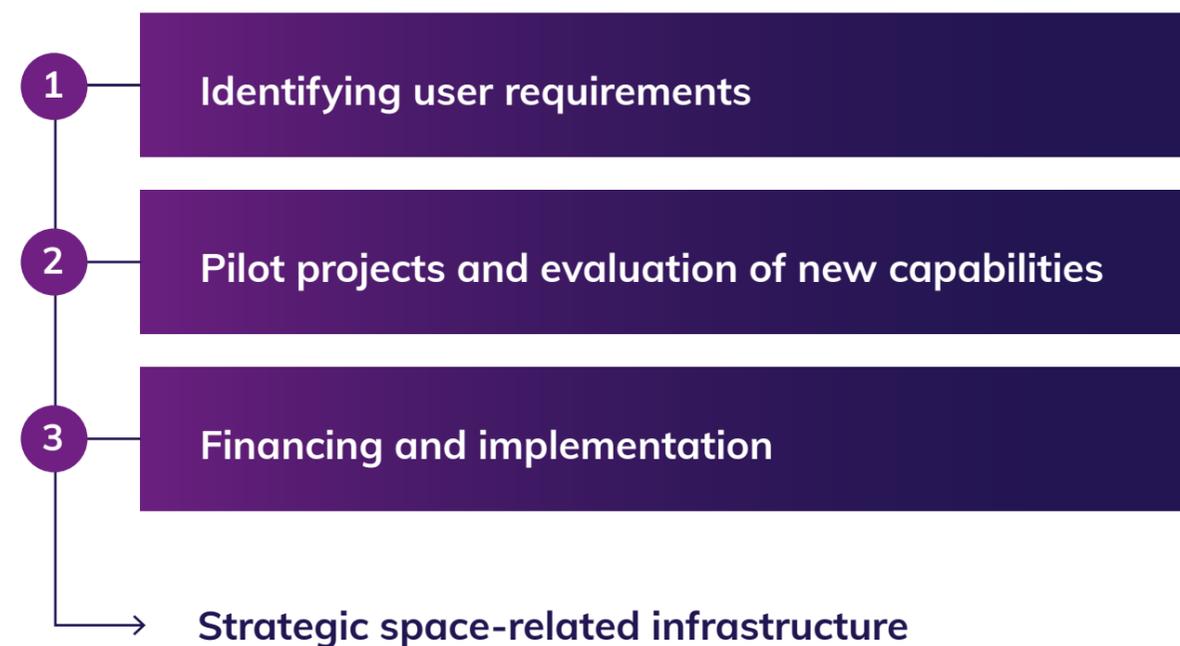
An important part of the group's mandate is R&D and development of strategic space-related infrastructure. Satellite projects are technically complicated, resource-intensive and typically require 2-5 years from investment decision to launch/operation, requiring more time when new technology is involved.



↑ Hans Christian Haugli, Director Innovation and Development (to the right) with Lars Løge, Program manager VDES (in the middle) and Ivar Spydevold, CEO Statsat AS (to the left).  
Photo: Nina Holtan | ninaholtan.no

Development projects often demand significant resources for testing and evaluation before an investment decision can be made.

Development projects at Space Norway are normally structured according to the following three steps.



## Step 1

### Identifying user requirements

Space Norway engages in continuous dialogue with relevant user groups to identify future needs for satellite-based capabilities. Identified user requirements are assessed according to usefulness, technical feasibility and risk prior to initiation of a possible pilot project. Examples of user groups are the Norwegian Armed Forces, the Norwegian Coastal Administration, the rescue services, as well as agencies/users in ministries that are involved in or are responsible for satellite-based infrastructure and services etc.

The technical and industrial competence in Space Norway represents an important basis for evaluating future satellite-based capabilities in collaboration with relevant user groups.

## Step 2

### Pilot projects and evaluation of new capabilities

Defined requirements are assessed in relation to current technological solutions and cost-benefit considerations. The ASBM programme is based on a specific and unmet need for satellite-based broadband in the Arctic. An initial cost-benefit analysis showed that the programme was too expensive for a single user. In the evaluation phase, Space Norway succeeded with significantly improving cost-benefit ratio by negotiating a joint project between three users and thus forming a basis for an economically feasible project.

In Step 2, analyses of utility, risk and a financial analysis are undertaken for all projects that are recommended for implementation.

## Step 3

### Financing and implementation

When a project is initiated, a project organisation is set up to run the project. An approved programme may, if beneficial, be structured as a separate limited liability company. The project organisation is staffed with applicable resources and expertise, such as technical, security, regulatory, project management, negotiation and financing. Space Norway also ensures that an appropriate and cost-effective operational structure is put in place prior to launch and operations of new capabilities.

The company's board of directors decides which projects are approved for step 2 and 3, and resources allocated to approved projects. Project status is reported to the board of directors on a regular basis.

## Development activities in Step 2 – capabilities for maritime surveillance and emergency preparedness

In 2020, the activities in Step 2 were mainly associated with two development projects focusing on maritime surveillance and emergency preparedness in the High North. The two most important projects are MicroSAR and VDES. MicroSAR<sup>12</sup> is a development project in cooperation with KSAT and FFI on maritime surveillance based on small radar satellites. The project was initiated in 2016 and will, if realised, provide a very capable radar capacity for surveillance of Norwegian waters. The project has defined a technical solution and identified suppliers of critical components. The payloads are developed and manufactured in Norway.

VDES (VHF Data Exchange System) is regarded as the next generation AIS. The system uses the same frequency bands and allows for two-way communication with ships via satellite (as opposed to the broadcast-only system of AIS). The specification for the VDES payload was developed by Space Norway and designed and manufactured in collaboration with Kongsberg Seatex. With the advantages of the VDES system, there is reason to expect that the system will become an important communication platform for global shipping and a vital contribution to increased maritime safety. Please also refer to a separate article in this report with more details on the VDES project.

Space Norway attains some external R&D contributions related to specific development projects. The accounts related to development projects are included in the parent company's profit and loss statement.

## Development activities in Step 3 – roll-out of the ASBM programme

The Arctic Satellite Broadband Mission (ASBM) programme is in the implementation phase, Step 3 with regards to previous process description. A decision to initiate the programme was made in 2019. The programme consists of two satellites with associated ground segments. The satellites will follow a highly elliptical orbit over the Arctic and will provide continuous broadband coverage north of the 65° N parallel. The satellites and payloads are under construction at Northrop Grumman in the United States. Each satellite weigh about 2 tons and measure 3x3x4 metres. With solar panels in extended position, the wingspan is 27 metres. One of the payloads, a radiation monitor, is being built by the Norwegian company IDEAS in collaboration with the Norwegian Space Agency and ESA.

An agreement has been entered into with SpaceX for launch on a Falcon 9 rocket, and the expected launch from Vandenberg Air Force Base is late 2022. In 2019, an agreement was entered into with KSAT on building of the ground segment for the programme. In parallel with the construction of the satellites, Space Norway and KSAT are jointly establishing a satellite control centre in Tromsø, Norway for the operation of the satellites when they become operational in 2023.

<sup>12</sup> SAR – Synthetic Aperture Radar.

With a total investment of approx. USD 450 million, this programme is Norway's largest satellite project to date. The programme is fully financed by a combination of equity, debt and prepayments from our partners. The order backlog at the end of 2020 is USD 624 million. Expected annual revenues when the satellites are operational will be approx. USD 41 million. Development and operations are organised in the wholly owned subsidiary Space Norway Heosat AS. Key financials are shown in the table below.

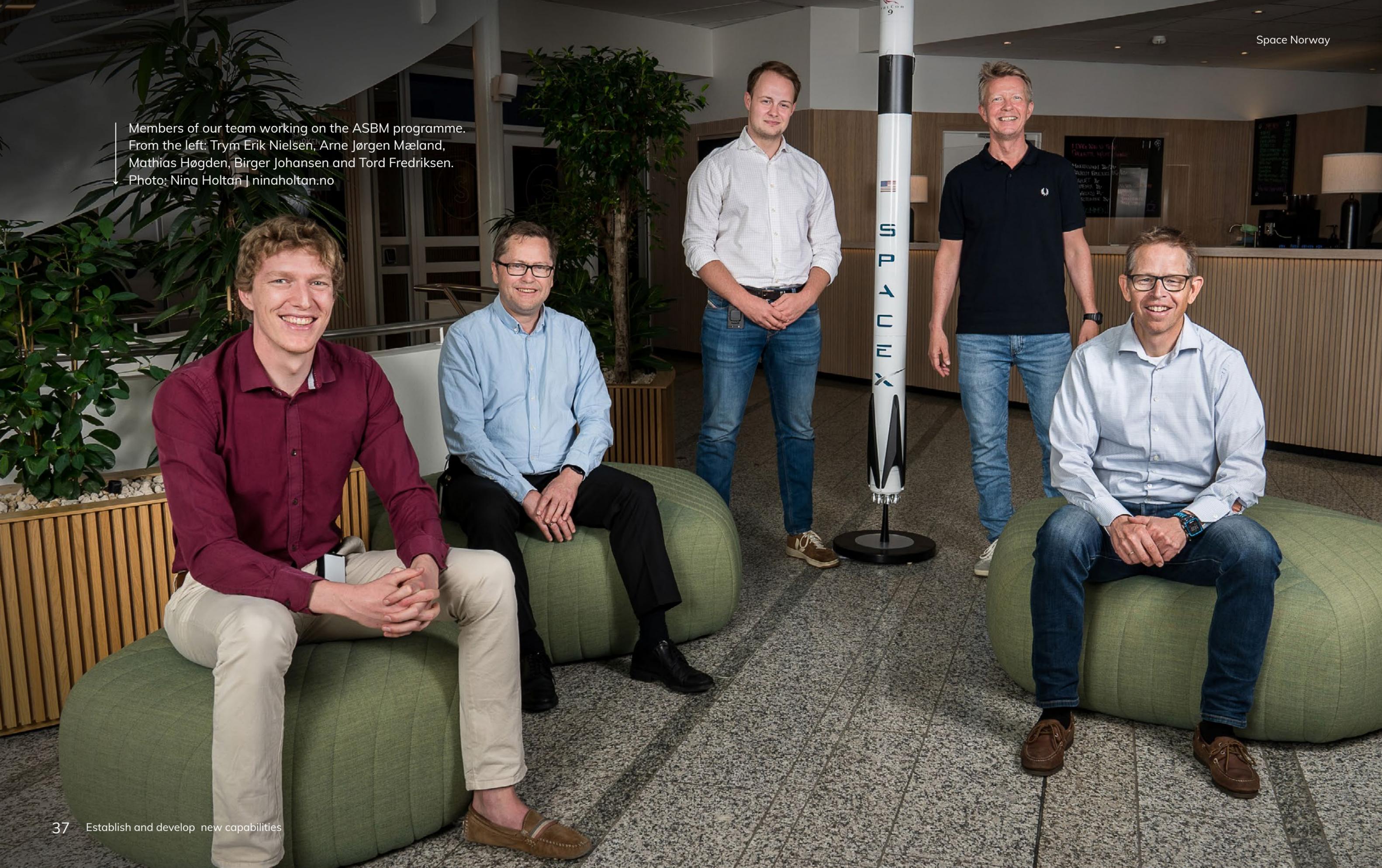
Key figures - Space Norway Heosat AS	2020	2019
Revenues	-	-
Other operating expenses	104,775	30,731
Operating profit	-104,775	-30,731
Net financial expenses (income)	-114,289	-28,923
<b>Net income (loss)</b>	<b>7,871</b>	<b>-1,808</b>
Capitalized investments for the period	1,104,724	697,665
<b>Total assets</b>	<b>2,157,297</b>	<b>954,349</b>

Figures in NOK 1000.

Illustration:  
Northrop Grumman

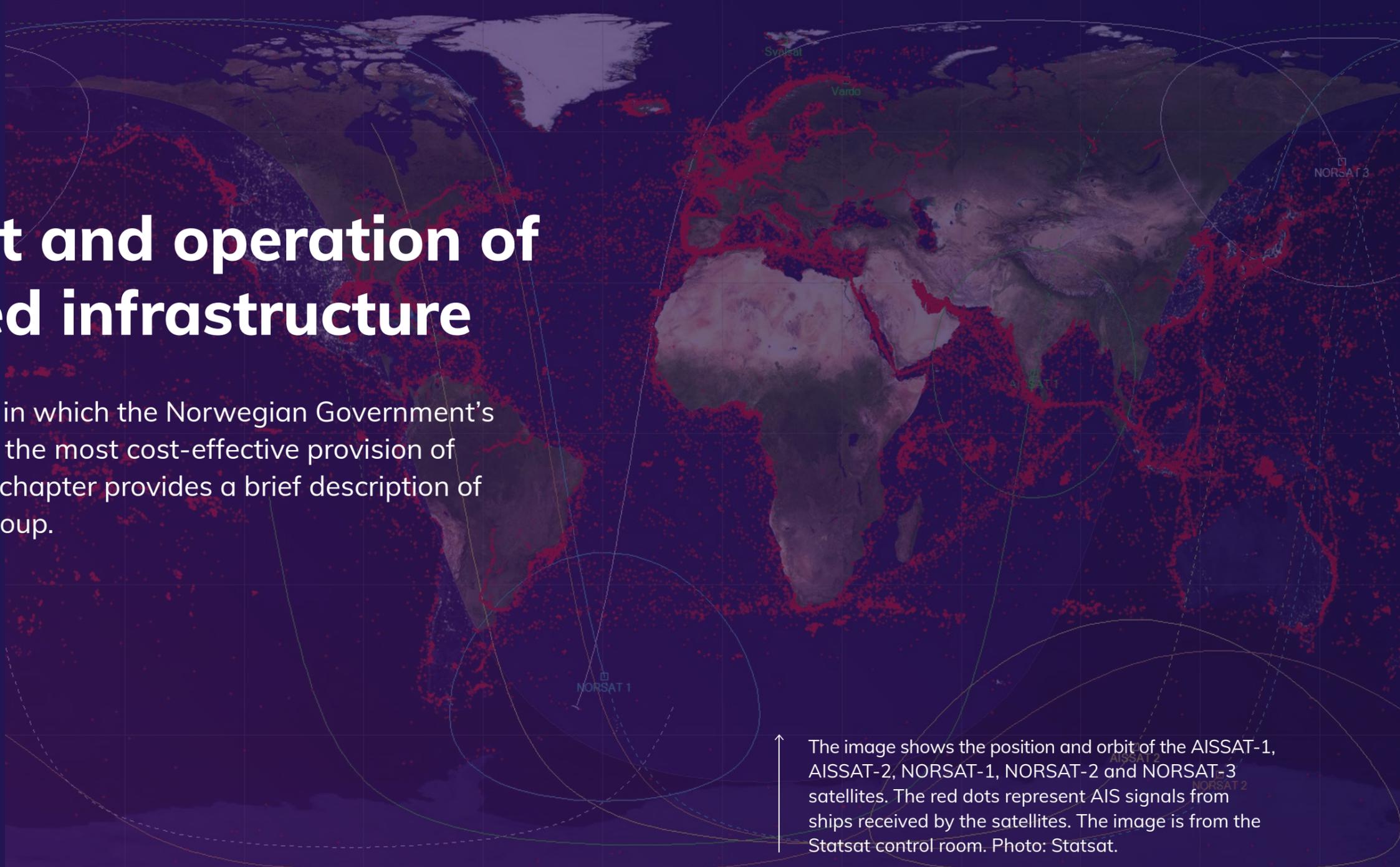


Members of our team working on the ASBM programme.  
From the left: Trym Erik Nielsen, Arne Jørgen Mæland,  
Mathias Høgden, Birger Johansen and Tord Fredriksen.  
Photo: Nina Holtan | ninaholtan.no



# Management and operation of space-related infrastructure

Space Norway is a company in which the Norwegian Government's priority as owner is to attain the most cost-effective provision of services and objectives. This chapter provides a brief description of the operative assets in the group.



The image shows the position and orbit of the AISSAT-1, AISSAT-2, NORRSAT-1, NORRSAT-2 and NORRSAT-3 satellites. The red dots represent AIS signals from ships received by the satellites. The image is from the Statsat control room. Photo: Statsat.

## Fibre connection to Svalbard and satellite connection to Antarctica

The fibre optic submarine cable connection to Svalbard became operational in January 2004. The distance between Svalbard and the mainland is roughly 1,400 kilometres. The connection consists of two separate fibre-optic cables and represents significant transmission capacity. The connection represents necessary infrastructure for distribution of data downloaded from the KSAT satellite station at Svalbard. It also represents a critical resource for the society at Svalbard and provides it with modern e-com services. The fibre connection is defined as critical infrastructure.

Ownership and operations are organised in the parent company of the group, Space Norway AS. Income is based on wholesale of transmission capacity to a few major customers, where capacities of 10 or 100 Gbps are offered. The customers are KSAT, Telenor and Uninett. The operation of the Svalbard fibre connection represents a deficit for the group.

Space Norway also provides the Troll Station in Antarctica with a satellite broadband connection. The capacity is delivered via a long-term lease of a dedicated capacity on the Thor 7 satellite. The satellite is owned and operated by Telenor Satellite, a subsidiary of Telenor ASA. The capacity is sub-leased in its entirety to KSAT. The accounts related to the Svalbard fibre connection and satellite connection to Antarctica are included in the parent company's profit and loss accounts.

## The KSAT joint venture

KSAT is a joint venture owned 50/50 by Space Norway and Kongsberg Defence and Aerospace, a division of the publicly listed company Kongsberg Gruppen ASA. KSAT is a provider of services related to the operation and reception of data from satellites, as well as the use of satellite-based information in global services.

KSAT is a world leader in its category and has two main business areas. Ground station services account for approximately 87% of turnover, and services based on satellite information constitute the remaining part. In 2020, antenna capacity was increased, and at the end of the year KSAT operated approximately 200 antennas and made approximately 50,000 satellite contacts per month. The company's operations include ground stations for communication with satellites, and for reception and processing of data in near real time and also services related to the use of such data. KSAT focuses especially on marine applications. KSAT is headquartered in Tromsø with offices at Svalbard, in Oslo, Stockholm and Denver.

KSAT and its subsidiaries continue to realise growth both in terms of turnover and profit. Revenues in 2020 were NOK 1034 million compared to NOK 928 million in 2019, an increase of around 12%. 93% of revenues came from customers outside Norway. In 2020, new orders constituted approximately NOK 1600 million. An excellent and unique infrastructure (pole-to-pole), increasing need for satellite-based services and an efficient organisation are among the key reasons for the positive trend for the company. KSAT has long-term contracts with

most of the world's leading space organisations in addition to important commercial players. The customer base is stable with a long-term perspective. This means that the business can focus on continued growth, innovative improvement and the establishment of new business areas. Key figures for the past two financial years are shown in the table below.

KSAT accounts are consolidated in Space Norway group accounts in accordance with the gross profit method<sup>13</sup>.

Kongsberg Satellite Services, group	2020	2019
Revenues	1,033,917	927,678
EBITDA	423,596	386,887
Operating profit	305,276	279,703
Net income	248,268	230,478
Total non-current assets	1,090,019	959,398
Total current assets	804,426	347,243
Total assets	1,894,446	1,306,641
Total equity	1,030,624	907,647
Total liabilities	863,821	398,994
Order backlog	3,387,000	3,034,000
Number of employees, year end	236	186

Figures in NOK 1000.

<sup>13</sup> According to the gross profit method, the participant accounts for its share of income, expenses, assets and liabilities.

Installation of antenna no. 100 at SvalSat, the KSAT ground station on Svalbard.  
Photo: KSAT.



## Operation of the Norwegian Coastal Administration's AIS satellites, Statsat AS

Statsat AS was founded in 2013 and is a 100% owned subsidiary. The company's scope is limited to providing public contracts between entities in the public sector. The business is mainly related to the operation and renewal of the Norwegian Coastal Administration's AIS satellites. These are satellites used for maritime surveillance and retrieve AIS signals from global shipping traffic. AIS is an anti-collision system for ships



↑ The image shows the Norwegian Coastal Administration's antenna in Vardø. The antenna is used for communication with the AIS satellites. Source: Statsat.

regulated by the International Maritime Organisation (IMO). When using AIS, ships send information about position, speed, direction and more. As of the end of 2020, the satellite fleet in operation consists of four micro-satellites (AISSAT-1, AISSAT-2, NorSat-1 and NorSat-2) in polar orbits, between 595 and 625 kilometres above sea level.

The satellites are operated by Statsat, which has developed software for cost-effective and automated monitoring and operations of the satellites. The monitoring system identifies and performs automatic repairs of recognisable errors as well as controls and performs automated download and processing of data from satellite to ground station. The satellites are small (mass is between 10 and 20 kilos) and are therefore considered to be micro-satellites. They are cost-effective satellites well suited for specific purposes. Data from the satellites are downloaded by ground stations in Vardø and Svalbard.

Statsat AS	2020	2019
Revenues	8,063	6,347
EBITDA	661	288
Operating profit	652	278
Net income	508	211
Number of employees, year end	4	4

Figures in NOK 1000.

# 3

## **Board and Management**

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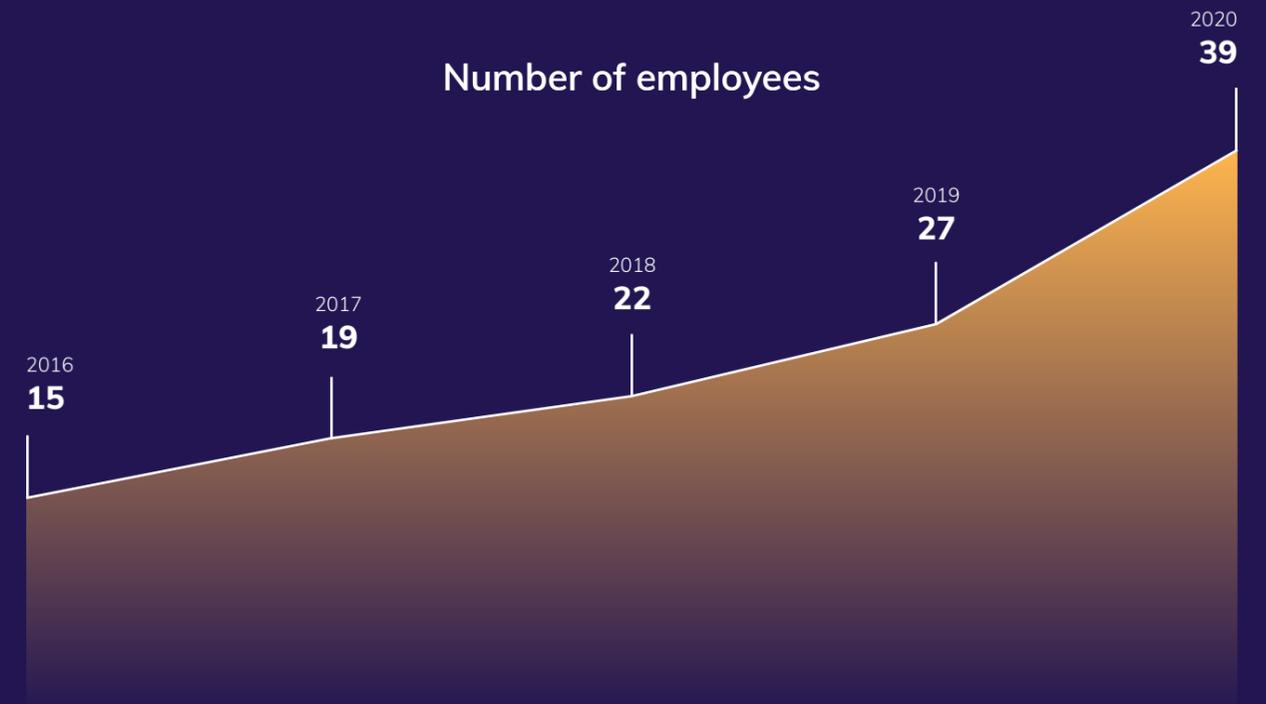
# Organisation

Efficient and safe operation of space infrastructure requires industry experience and cutting-edge expertise in what is a specialised niche. The Space Norway organisation is characterised by growth and development. The decision in 2019 to implement the ASBM programme was an important milestone and a key driver for growth and development of the organisation. Increased manning was required in most functional areas; project management, technical expertise, security, regulatory, financing legal as well as general administrative functions. Space Norway places great emphasis on offering a positive work environment to attract and retain skilled personnel.

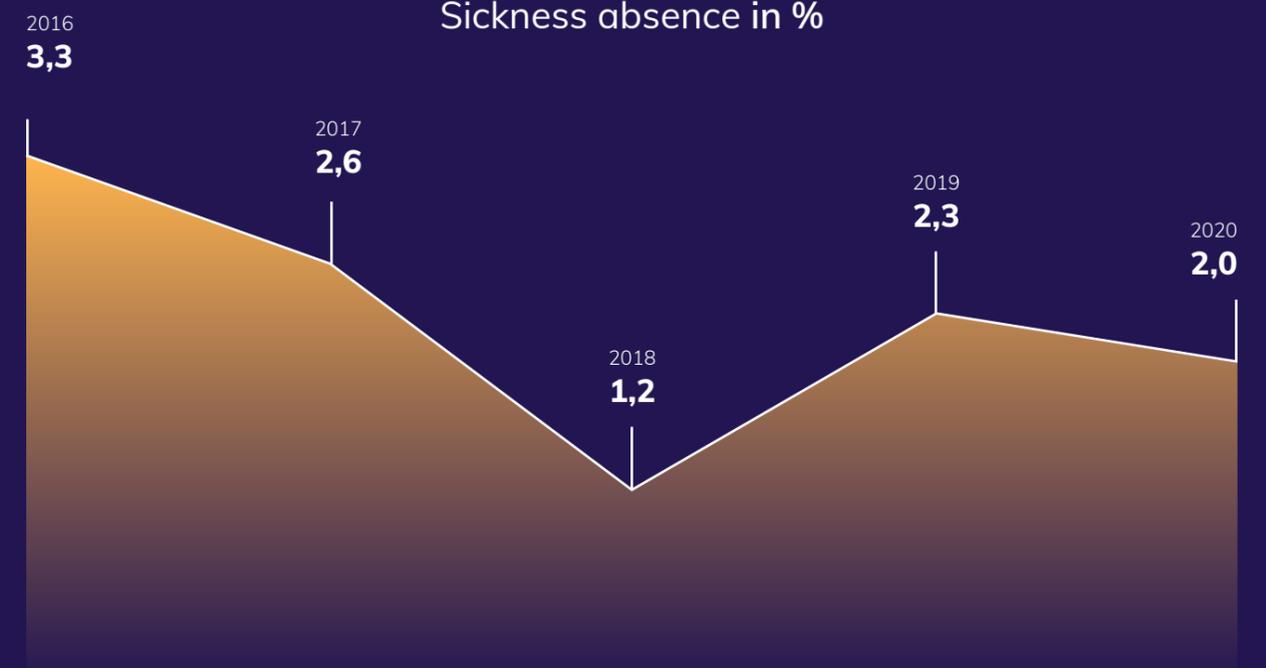
Increasing the percentage of women in the company is important. The company's policy is to strive for a gender balance when recruiting where applicant qualifications are otherwise equal. At the end of 2020, Space Norway and its 100% owned subsidiaries had a total of 39 employees. At the end of 2020, KSAT had a total of 236 employees. Sickness absence was low in 2020 at 2.0% in Space Norway and its 100% owned subsidiaries and 2.4% in KSAT. For comparison, in the national business area of information and communication companies the sickness absence was 3.3% in 2020<sup>14</sup>.

<sup>14</sup> Source: Statistics Norway, Table 12441.

### Number of employees



### Sickness absence in %



\*) Numbers in figures are for Space Norway and its 100% owned subsidiaries.

# Space Norway Executive Management



**Jostein Rønneberg**  
Group CEO and CEO of  
Space Norway AS



**Gro Undrum**  
CFO



**Dag H. Stølan**  
CSO and Director  
Infrastructure



**Kjell-Ove Orderud Skare**  
Programme Director ASBM



**Hans-Christian Haugli**  
Director Innovation and  
Development



**Torstein Losnedahl**  
Group Legal Counsel



**Knut Myrvang**  
CFO Space Norway  
Heosat AS



**Ivar Spydevold**  
CEO Statsat AS

Photo: Nina Holtan | [ninaholtan.no](http://ninaholtan.no)

# Sustainable value creation at Space Norway

In the state ownership report (Report to the Parliament 8, 2019-2020), the Norwegian Government set out its expectations of state-owned companies. The report sets high expectations for sustainability and responsible business operations. An introduction to Space Norway's focus and priorities in sustainable development can be found below.

Sustainability is becoming increasingly important throughout society as well as in individual enterprises. In the state ownership report (Report to the Parliament 8, 2019-2020), the Norwegian Government set out its expectations of state-owned companies. The report sets high expectations for sustainability and responsible business operations. The report also states that these initiatives should be adapted to the company's operations, uniqueness, risk and size. Space Norway is committed to sustainable and responsible development and the expectations set out in the report. In Space Norway, sustainability and responsible business operations are an ongoing process with the objective to continuously improve over time. It is also a recognition that the company's capacity for efforts on sustainability initiatives is closely related to healthy financial results.

In 2015, the UN adopted 17 main goals and 169 targets for sustainable global development<sup>15</sup>. The goals will function as a common global direction for countries, for the business community and for society. The goals represent awareness of areas for sustainability and improvement. They also constitute an excellent framework for individual businesses to prioritise areas in which they can make a difference. Space Norway considers all 17 goals to be important and has identified five prioritised goals with particular emphasis in its day-to-day business operations.

The five prioritised UN Sustainable Development Goals at Space Norway are:

<sup>15</sup> THE 17 GOALS | Sustainable Development (un.org).



### **Goal 5, Gender equality.**

Space Norway regards increasing the percentage of women in the company as important. The company's policy is to strive for a gender balance when recruiting new employees where the qualifications of the applicants is otherwise equal.

## 8 DECENT WORK AND ECONOMIC GROWTH



### Goal 8, Decent work and economic growth.

Space Norway emphasises a good working environment characterised by respect, openness and job satisfaction. An internal regulation for ethics and anti-corruption has been prepared and is reviewed with all employees at least twice a year. A whistleblowing procedure has also been prepared, which is also discussed with all employees at least twice a year. Spring of 2020, a separate working environment committee consisting of four members was established. Furthermore, a tailored Supplier Code of Conduct document, which forms the basis for major procurement contracts, has been set up.

## 9 INDUSTRY, INNOVATION AND INFRASTRUCTURE



### Goal 9, Industry, innovation and infrastructure.

Operation and development of robust and secure infrastructure represents the core of Space Norway's operations. The fibre connection to Svalbard is a critical resource that supplies the community on the archipelago with modern ecom-services. It is also vital to KSAT's operations for the distribution of data from satellites in polar orbits that are downloaded via the ground station on Svalbard. Such data are important to end users in such as weather forecasting services, environmental monitoring and contributions to Europe's Galileo navigation system. Space Norway also contributes with development of critical infrastructure by establishing a new satellite-based broadband in the Arctic, and through innovation and development of a satellite-based system for digitisation of the shipping industry as well as satellite-based radar monitoring of oceans in the High North.



### **Goal 12, Responsible consumption and production.**

Emphasis is placed on awareness and continuous improvement related to consumption in daily operations. The company's main activities have a limited impact on the external environment in the form of emissions and pollution. Space Norway encourages its employees in their daily work to use resources as efficiently as possible, limit their waste, use recycling schemes and reduce activity that generates greenhouse gas emissions. Furthermore, management assesses the consequences for climate and sustainability related to new projects and investment decisions. The capabilities offered by Space Norway often provides end-users the opportunity to use new environmentally friendly services, an example being satellite based monitoring enabling potential reduction in the use of planes and ships.



### **Goal 14, Life below water.**

Reduced ice cap in the Arctic is resulting in increased shipping traffic and other activities in these vulnerable areas. The rise in traffic increases the risk of accidents and pollution. The need for surveillance, communication and security in these waters are therefore increasing. Norway has special responsibility for facilitating safe and environmentally friendly activity in Norwegian waters. The infrastructure that Space Norway develops and operates contributes to enhanced information, communication, and safety at sea. The infrastructure supports services like weather forecasting, distribution of updated ice maps, detection of pollution, monitoring of shipping traffic etc. These services can reduce the risk of accidents and provide better coordination and performance of rescue operations.

# The Board of Space Norway



## Asbjørn Birkeland

Chairman of the Board

Born 1946

**Birkeland** has long-standing experience in the oil and gas sector as well as the electronics and telecoms industry, including ten years as CEO/group CEO of Nera ASA. He has also been a senior consultant at PA International with responsibility for organisational development and strategic change projects. Birkeland has for many years been the head of an investment company focusing on restructuring and profitability of technology companies. He has been involved in the space sector for over 25 years. He has held a number of board positions in finance and technology companies, including Vital, Posten and GIEK. He has also been chairman of the board of the Bergen International Festival and Larvik Conservatives Party.

Photo: Nina Holtan | [ninaholtan.no](http://ninaholtan.no)

# The Board of Space Norway



## Tore Olaf Rimmereid

Member of the Board  
Born 1962

**Master of Business Administration and certified financial analyst, Norwegian School of Management**

**Rimmereid** is currently project director at Hafslund Eco. He has previously been CEO of E-CO Energi, Deputy CEO of Hafslund E-CO and Director of Administration and Finance at NRK. He has also held leading positions in banking and finance, including CFO of SpareBank1 Gruppen and bank manager at Kreditkassen (now part of Nordea).

Rimmereid was a member/deputy chairman of the board of DNB from 2007 to 2020. Rimmereid currently also holds a number of other board positions.



## Arild E. Hustad

Member of the Board  
Born 1965

**Hustad** is an experienced international leader in telecoms and IT. He has worked in senior positions in British Telecom and Telenor and been CEO of Telecom Management Partner, Network Norway, Tele 2 and Link Mobility Group. Hustad is currently active in a number of board positions and investment projects. Hustad has a Master of Business Administration from Stirling University, an MBA from Herriot-Watt and a Master of Law from the University of Aberdeen in Scotland.

Photo: Nina Holtan | [ninaholtan.no](http://ninaholtan.no)

# The Board of Space Norway



## Ann-Kari Heier

Member of the Board  
Born 1966

**MSc, Norwegian University of Science and Technology, Technical Cybernetics**

**Heier** works as COO at Telenor Maritime AS. She has more than 30 years' experience from industry and international research institutions such as CERN and ESA. She has hands-on experience of development work on and management of technically and commercially demanding projects. For the past 15 years, Ann-Kari has held various executive management roles in the supplier industry for the maritime and offshore industries. Heier is also a board member of NHO Agder and Maritimt Forum Sør.



## Christina Aas

Member of the Board,  
Employee Representative  
Born 1984

**Aas** works as project manager at Space Norway AS. Aas was elected as a Member of the Board in April 2021. She has a bachelor's degree in Mathematics and Physics from the Norwegian University of Science and Technology and a master's degree in Aerospace Engineering from Delft University of Technology in the Netherlands. Her previous experience includes being the founder and CEO of Science & Technology in Oslo as well as board positions in Norwegian Industrial Forum for Space Activities (NIFRO) and Andøya Space.

Photo: Nina Holtan | ninaholtan.no  
Photo: Christina Aas: Teknisk Ukeblad.

# Digitisation of shipping

The VHF Data Exchange System (VDES) is a system under development designed to contribute to e-navigation and digitisation of shipping. In 2015, Space Norway, in partnership with Kongsberg Seatex and FFI, won a contract for the development of a prototype VDES payload. Since then, the company has established a leading role internationally in specification, development and testing of the VDES system. The focus has been on the system's satellite component. With the advantages of the VDES system, there is reason to expect that the system will become an important communication platform for global shipping and an important contribution to increased safety and digitisation of shipping.

↑ Space Norway has a leading role in the development of a new satellite system for communication with ships.

The Automatic Identification System (AIS) was introduced by the UN's maritime organisation IMO<sup>16</sup> to enhance safety at sea. AIS sends information about position, course, speed and the ship's identity using VHF radio signals. All ships over 300 gross tons are required to use AIS. The system is mainly an anti-collision system that provides information directly to each ship about near-by traffic and warns of risks for collision or close passage. The system also provides a detailed real-time picture of shipping traffic and is used by the Norwegian Coastal Administration for monitoring traffic in its areas of responsibility. However, the ground level range of the system is limited to what can be received above the horizon. For an AIS base station on land, this usually means a maximum range of approximately 70-100 kilometres. Areas further from coastal stations, such as open oceans and Arctic waters, are therefore beyond reach of land based AIS base stations. This represents a challenge for the Norwegian authorities' ability to monitor traffic in our waters.

In 2005, the Board of the Norwegian Space Agency invited Norwegian companies to propose satellite based AIS-solutions, where a project proposal from the Norwegian Defence Research Establishment (FFI) for an AIS receiver in space won the competition. AISSat-1, Norway's first national surveillance satellite, was developed in a partnership between FFI, the Norwegian Coastal Administration, the Norwegian Space Agency and Kongsberg Seatex. The satellite was launched

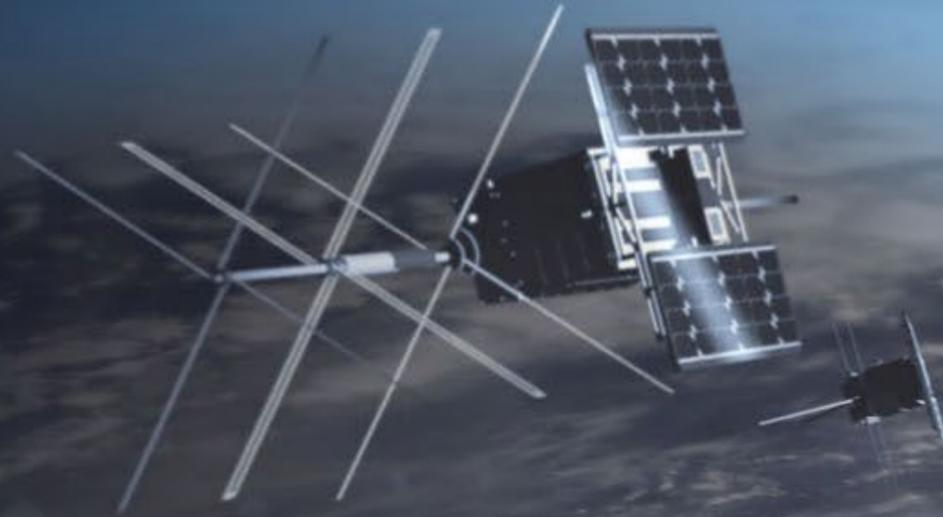
in 2010, proving that satellite reception of AIS signals using small and cost-effective micro-satellites was feasible. According to Arve Dimmen, director of maritime safety at the Norwegian Coastal Administration in 2010, it was like turning on the lights at sea - they could now "see" ships at vast oceans. With AISSat-1, Norway became one of the first nations in the world to operationalise satellite-based reception of AIS signals. The Norwegian Coastal Administration currently owns four AIS satellites. Space Norway subsidiary Statsat is responsible for the operation of the satellites, and Kongsberg Seatex supplies the technology for signal reception.

The VHF Data Exchange System (VDES) is a system under development designed to contribute to e-navigation (digitisation of shipping). IMO and IALA<sup>17</sup> have been the driving force for this development. VDES will be able to provide two-way, low-speed communications to ships around the world, including the Arctic. VDES can be seen as the next generation AIS and operates in the same frequency range. The system specification for VDES is adapted for use via satellite, as a result of an initiative by ESA in 2014. A major advantage is that there is no need for new antennas on board ships or on land as the system uses existing VHF antennas. By supplementing coverage from land-based stations with coverage from satellites, VDES will in the future provide a seamless, global system for low-speed communication to/from ships.

<sup>16</sup> IMO is the International Maritime Organisation.

<sup>17</sup> IALA is the International Association of Maritime Aids to Navigation and Lighthouse Authorities.

NorSat-1 and 2 in orbit above Norway. The satellites are micro-satellites that only weigh 16 kilos and measure 20x20x40 cm, excluding antennas and solar panels. NorSat-2 is the world's first satellite with a payload for VDES communication.  
↓  
Photo: Space Norway, T. Abrahamsen



In 2015, Space Norway, in partnership with Kongsberg Seatex and FFI, won a contract for the development of a prototype VDES payload, which has been demonstrated on vessels in the Arctic oceans. The company has established a leading role internationally in specification, development and testing of the VDES system. The focus has been on the system's satellite component. Communication via satellites requires access to suitable frequency bands, which is a limited resource. Allocation and coordination of frequencies is managed through the International Telecommunications Union (ITU), a UN organisation where member countries participate and influence how, and for what use, frequencies are allocated. Allocation and coordination of frequencies is a complex process where a number of different interests are taken into account.

Space Norway has made a significant effort in international bodies such as CEPT<sup>18</sup>, ITU and IALA in the preparatory work leading up to allocating frequencies and standardisation of the VDES system. Lars Løge from Space Norway acted as coordinator for Europe (CEPT) on the issue of frequency allocation for VDES both in preparation for and during the World Radiocommunications Conference in 2019 (WRC-19). Norway – through a partnership between Space Norway and the Norwegian Communications Authority – was instrumental in achieving frequency allocation for VDES at WRC-19. This would not have been possible without comprehensive efforts in the form of system development, measurements and testing of VDES signals on NorSat-2, supported by ESA, the Norwegian Space Agency, the Norwegian Coastal Administration and the Norwegian Maritime Authority.

<sup>18</sup> European Conference of Postal and Telecommunications Administrations.

Examples of VDES-based services are:

- Satellite-based retransmission of AIS messages for increased situational awareness and navigation in the Arctic.
- Broadcasting of ice maps to ships.
- Distribution of search patterns in connection with rescue operations at sea.
- Ship reporting, also in partnership with EMSA (European Maritime Safety Agency).
- Broadcasting of EGNOS correction data and next generation GPS and Galileo integrity messages for better and safer positioning.
- Precise time and position via VDES.

Space Norway works closely with our partners at Kongsberg Seatex, EMSA and the Norwegian Coastal Administration, with support from the Norwegian Space Agency and ESA in making VDES an operational capacity. Norway is a world leader in this area and the only nation that currently has an operational VDES satellite in orbit. Space Norway has recently acquired an updated and more capable VDES payload from Kongsberg Seatex, which will be one of the payloads on the Norwegian Space Agency's satellite NorSat-TD, planned for launch in 2022.

The collaboration with the industry has been close and productive, and Kongsberg Seatex is positioned as a leading international supplier of both ship equipment and satellite payloads for VDES. With the advantages of the VDES system, there is reason to expect that the system will become an important communication platform for global shipping and an important contribution to increased safety and digitisation of shipping.

↓ MS Polarsysseel during testing of VDES signals from  
↓ NorSat-2 near Svalbard in 2020. Photo: Sysseelmannen



# 4

## Annual Accounts Space Norway AS

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# Board of directors' report 2020<sup>19</sup>

The group comprises Space Norway AS, the parent company, and the 100% owned subsidiaries Statsat AS and Space Norway HEOSAT AS (HEOSAT) as well as a 50% shareholding in Kongsberg Satellite Services AS (KSAT). KSAT has been consolidated into the group based on the gross profit method.

<sup>19</sup> Please note that the English version of the Board of Directors report 2020 is a translation of the official and approved Norwegian report.

↑ Photo: SpaceX

Space Norway AS is 100% owned by the Norwegian Ministry of Trade, Industry and Fisheries. The company is a sectoral policy company set up to develop and operate space-related infrastructure to meet the needs of Norwegian user and to generate value based on space activities in Norway. The company identifies and develops new opportunities and projects with a long-term horizon and collaborates with other national communications and space operators. The High North is the company's key geographical focus area. .

The company is financed in its entirety by its own income and does not receive grants from the Norwegian Government. The company is managed according to ordinary business principles.

## Business units and market

Space Norway AS owns and operates the fibre connection between mainland Norway and Svalbard, and is responsible for ensuring communications with this remote archipelago. In addition to distributing satellite data to customers around the world, the fibre-optic cable system is the main communication line between Svalbard and the outside world. The Svalbard fibre connection became operational in January 2004. The connection has proven to be an important catalyst for space-related business development and has brought social benefits to the general community on Svalbard.

In 2020, Space Norway implemented measures to reduce the vulnerability of the Svalbard fibre connection. The company worked closely with relevant Norwegian authorities to achieve this. Income is based on wholesale of capacity to trusted long-term customers.

In 2011, Space Norway signed a contract with Telenor Satellite Broadcast to lease capacity on one of the transponders on the Thor 7 satellite. The transponder and antenna was designed at the initiative of the company to provide cost-effective data transfer from the Troll scientific station in Antarctica to Norway. Thor 7 was launched in 2015 and has a service life of approx. 15 years. The capacity is sub-leased to KSAT.

Statsat AS is responsible for the development and operation of small satellites for governmental use. The business is mainly related to the operation and renewal of the Norwegian Coastal Administration's fleet of AIS satellites. The assignment is reviewed annually, but long term plans for maintenance and continued operations have been established.

The subsidiary HEOSAT was registered in 2019 and is a single purpose company with a goal to establish broadband communication in the Arctic by launching two satellites into a highly elliptical orbit with a dedicated ground segment. The capacity has been sold in its entirety to the Norwegian Armed Forces, the US Space Force and Inmarsat. The programme is fully funded by a combination of prepayments, debt and equity. The satellites are under construction at Northrop Grumman in the United States and are expected to become operational early 2023. During the period up to 2023, the group will incur significant costs related to the development, construction and launch of the satellites. The order backlog for HEOSAT is USD 624 million and the estimated annual income when the satellites are operational is USD 41.7 million.

KSAT is a joint venture owned 50/50 by Space Norway AS and Kongsberg Defense & Aerospace AS. KSAT is the world's largest supplier of ground station services for controlling and downloading data from satellites in polar orbits. At the end of 2020, KSAT operated approx. 200 antennas and conducted approx. 50,000 satellite contacts per month. KSAT supplies services to such space programmes as Galileo and Copernicus which are important ESA/EU-funded programmes. KSAT has demonstrated excellent growth and margins over many years. In 2020, turnover was NOK 1,034 million (2019: NOK 928 million). In 2020, 93% of turnover was from customers outside Norway. Operating profit before depreciation and amortisation (EBITDA) was NOK 424 million (2019: NOK 387 million). The order backlog at the end of 2020 was approx. NOK 3,500 million. Excellent and unique infrastructure (pole-to-pole, including ground stations both on Svalbard and at the Troll station in Antarctica) increasing market for satellite based services and an efficient organisation are key reasons for the positive trend.

### Summary of income statement and statement of financial position

The group's turnover in 2020 was NOK 547.4 million, an increase from NOK 513.7 million in 2019. This growth is mainly due to revenue growth in KSAT. The group's operating profit (EBIT) was NOK 15.8 million compared to NOK 111.9 million the previous year. An important reason for the decline is a significant increase in non-capitalised costs relating to the ASBM programme in HEOSAT, from NOK 30.7 million in 2019 to NOK 104.8 million in 2020.

Net financial items represent NOK 114.3 million on a group basis, an increase from NOK 22.4 million in 2019. The increase is mainly a positive currency effect in HEOSAT related to advance payment made by a customer in USD. The payment is in USD to match investments in USD, but as the group accounts are in NOK, currency fluctuations will affect the group's net financial items.

Pre-tax profits were NOK 130.2 million in 2020, a reduction from NOK 134.3 million in 2019. Tax is expensed at NOK 26.1 million and represents a tax burden of 20.1%. The group's profits after tax were NOK 104 million, a decrease from NOK 109.7 million in 2019.

At the end of 2020, total assets in the group amounted to NOK 3,413 million, an increase from NOK 1,846 million at the end of 2019. Capitalised investment costs in HEOSAT related to the construction of the company's two satellites is the primary contributor to this increase. Construction in progress represented NOK 1,802 million (year end 2020), an increase from NOK 697 million in 2019. The joint venture, KSAT, represented NOK 947 million of the consolidated total assets at the end of 2020. The group's current assets stand at NOK 959 million ultimo 2020 (yearend 2019: NOK 556 million).

Total equity at the end of 2020 was NOK 898 million, which is an increase from NOK 640 million at the end of 2019. The equity ratio at the end of 2020 was 26%, which is a reduction from 35% in 2019. The group's long-term debt as of 31 December 2020 was NOK 2,135 million, of which NOK 1,985 million (or 93%) is related to the HEOSAT

subsidiary. Long-term debt in HEOSAT at the end of 2020 consisted entirely of pre-payments from customers. Short-term debt at the end of 2020 was NOK 380 million, an increase from NOK 157 million at the same time the year before.

Net cash flow from operating activities was NOK 321 million in 2020 compared to NOK 83 million in 2019. Cash flow from investment activities was NOK -1,233 million in 2020 compared to NOK -758 million in 2019. Payments related to the construction of the HEOSAT satellites constituted most of this difference. Cash flow from financing activities was NOK 1,238 million in 2020. The net change in the cash position for the group was NOK 325 million in 2020 and the cash position at the end of 2020 was NOK 672 million.

The investment programme in the HEOSAT subsidiary will also represent significant cash expenditures in 2021 and 2022. There is no basis for dividends from the parent company during this investment phase. A large part of the group's cash and cash equivalents relates to committed future payments of contracts in HEOSAT. The Board considers liquidity to be satisfactory.

Space Norway AS is the parent company of the group. The parent company's profits after tax in 2020 was NOK 32.57 million. The Board proposes to transfer the entire net profit for to other equity. Subsequently, the total equity for the parent company will amount to NOK 322 million, corresponding to an equity ratio of 61%. Pursuant to Section 3-3 of the Norwegian Accounting Act, it is confirmed that the financial statements are on the basis of a going-concern.

Considering the phase the company is in, the Board finds the results to be satisfactory. The Board is of the opinion that the annual accounts provide a true picture of the company's and the group's assets and liabilities, financial position and profits at the end of the year.

## Tax policy

The company and its wholly owned subsidiaries have all their operations in Norway and operate in accordance with Norwegian tax legislation and tax rules. With the implementation of the ASBM project, HEOSAT will have some limited activity in the United States. KSAT has activity in several locations in the world. The company's main activity is subject to Norwegian tax legislation and activities in other parts of the world follow local tax legislation.

## Innovation and development

An important part of the group's mandate is the development of security-critical space-related infrastructure. We work continuously to identify, study and develop new projects that are relevant to Norwegian user needs.

The group's activities in the development of broadband capacity in the Arctic were transferred to HEOSAT in 2019. The project will be operational from 2023 onwards. Other development activities include a project to develop and demonstrate maritime surveillance services with advanced radar technology. This is performed in close collaboration with Norwegian government bodies. We also work with the European Space Agency (ESA) and Norwegian technology companies on the development and testing of satellite-based solutions for maritime

surveillance, maritime safety and emergency preparedness. This activity builds expertise both within the company and with our partners.

## Employees

In line with the Board's plans, in 2020 Space Norway AS continued the development of the organisation and attracted additional expertise to ensure completion of existing commitments and for developing new space-related infrastructure projects.

At the end of 2020, Space Norway AS and its 100% owned subsidiaries had 40 employees and KSAT had 222 employees. The proportion of women in KSAT was 25% and 13% in the parent company including its 100% owned subsidiaries. The parent company's management team consists of two men and one woman. Sickness absence in 2020 was 2.4% for KSAT and 2.0% for the other companies.

Other staff resources are contracted on a consultancy basis. Salary levels at Space Norway AS are not market leading, but competitive. The company seeks to meet the requirement for gender equality for new recruitments.

## Risk management and internal controls

The group focuses on controlling risk in activities and projects, and no new projects or activities are initiated without a risk assessment, in particular the financial risks. Internal controls have been established in routines and processes where the division of labour and clear responsibilities and authority are key.

The basis for an effective and systematic risk management process is a good understanding of the risk factors affecting the group. The board and the administrative team prioritise to continuously update a comprehensive overview of applicable risk factors. Some of the most important risk factors for the group and the industry can be found below.

### Market risk

The market for the services provided by the group is characterised by long and relatively stable contracts. All capacity on the ASBM programme has been pre-sold to reliable customers. At the end of 2020, the order backlog in HEOSAT represented USD 624 million. The ASBM programme is expected to be operational from 2023 onwards. At the end of 2020, KSAT, the joint venture, had an order backlog of approx. NOK 3,500 million, which is approx. 3.5x turnover in 2020.

### Operational disruptions

The group has delivery obligations to customers, and any operational disruption may lead to losses and additional costs related to repairs. For the fibre connection to Svalbard, the group has an obligation to

restore the connection in the event of failure. In the event of a disruption in the Svalbard fibre connection a guarantee consortium has been established regulating the financial contribution from certain customer for the repair costs. The ASBM programme is planned to be operational from 2023 onwards. Risks include events such as delays, launch failure and subpar performance of the satellites. The group is in a process to establish insurance covering a large part of the risk associated with the launch and operationalisation of the satellites. However, insurance contracts had not been formally established by the end of 2020.

### **The COVID-19 pandemic**

The COVID-19 pandemic erupted early in 2020 and has affected work processes internally in the group as well as with sub-contractors and customers. Despite the fact that vaccination programmes have been rolled out, great uncertainty is still associated with the further course of the pandemic and its consequences for the group. The effects experienced by the group have been limited with no significant disruptions or sickness absence in its operations. The pandemic has so far not led to delays in the progress of the group's projects, but the risks have increased.

### **Project risk**

The group focuses on assessing and controlling risk in its activities and projects. The ASBM programme is the group's largest project and represents risks related to financial, technical and operational matters, as well as progress. Regular financial, technical and legal audits are performed under the auspices of the Norwegian Ministry of Trade,

Industry and Fisheries using external advisors. At the end of 2020, the ASBM programme was progressing according to plan, but technical delays related to one of the payloads may lead to a deferral of the launch date. It is currently too early to draw any conclusions about the extent or consequences of this.

### **IT security, data breaches and sabotage**

Threats to IT systems are a growing challenge for both the commercial and public sectors. The group's operational capability is largely dependent on various IT systems being operated without interruption. Any disruption due to accidents, errors, sabotage or hacking of systems may lead to operational delay, loss of information, loss of reputation and significant negative financial consequences. The group's activities within technology and safety-critical infrastructure require a special focus on this area. In the autumn of 2020, an assessment of IT systems and vulnerabilities was conducted, which is expected to lead to the roll-out of a new IT platform in 2021.

### **Anti-corruption and whistleblowing**

The group has zero tolerance for corruption and has established rules and guidelines for ethics and anti-corruption. The rules are reviewed with employees at least twice a year, and a separate whistle-blowing procedure has been established. However, such routines and practices are not a guarantee that individuals in the group will at all times follow the requirements and guidelines incumbent on the group. If individuals violate laws, ethical requirements and other rules, this may still lead to losses and liability for the group.

### Currency risk

The business is exposed to changes in exchange rates, primarily the exchange rates of the Norwegian krone to the US dollar (USD) and the euro (EUR). The group's policy is to hedge significant contracts. Income and costs/investments on the ASBM programme are mainly based on USD, with the exception of contracts for the construction and operation of the ground segment in Norway which are in NOK. Investments in USD are currency hedged during the construction period. Currency hedging has not yet been established for the operating phase. Advance payments received from customers on the ASBM programme are in USD. Our accounts are booked in NOK, and the exchange rate between NOK/USD will have an accounting currency effect. ESA projects (EUR) and future operating income related to the ASBM programme (USD) are not hedged. The joint venture KSAT receives a large part of its income in USD and EUR and is therefore exposed to currency risk. KSAT safeguards its contractual income streams through forward contracts.

### Interest rate risk

With the exception of the HEOSAT subsidiary, the group has little interest-bearing debt. The HEOSAT subsidiary has established a loan facility of up to USD 100 million, which is utilized in line with investments in the programme. As of the end of 2020, the loan facility has not yet been drawn upon. Of this facility, 75% is secured at a fixed interest rate and 25% at a floating interest rate. The company also has a short-term credit facility of USD 10 million. The joint venture KSAT has a net positive cash position.

### Liquidity risk

Space Norway is the parent company in the group. A significant part of the group's profits and cash flow are created in subsidiaries and joint ventures. The parent company's liquidity supply is therefore based on income in the parent company as well as group contributions or dividends from subsidiaries in the group. In 2019, the Norwegian Government decided to provide up to USD 101 million in equity in connection with the ASBM programme. This capital will be provided over several years. The ASBM programme is fully financed by a combination of equity, bank loans and advance payments from customers.

### Credit risk.

The group's customers represent a mix of public and large private groups, and losses on receivables have historically been low.

### Health, safety and environment

The group's activities do not pollute the external environment.

The company has established guidelines and routines to prevent corruption and other ethically adverse events. In 2020, the company did not have any cases or warnings related to corruption or other ethical matters.

The group has not experienced any accidents in 2020.

The coronavirus situation has not affected the company negatively in 2020, but we recognise that it has increased the risk of delays. Employees have mainly worked from home in accordance with government recommendations.

Space Norway aims to be an attractive workplace with a diverse and inclusive working environment characterised by honesty, respect, courage, openness and interaction. The company wishes to strengthen diversity, including recruiting more women to achieve a better gender balance. The group is located in modern and functional premises at Skøyen in Oslo and a good working environment has been established. There have been no injuries or accidents. Sickness absence was low in 2020 at 2.0%. In 2020, a separate working environment committee was established consisting of two representatives from the employees and two from the employer. The committee will meet at least twice a year.

On our projects, we work actively to contribute to the UN's Sustainable Development Goal no. 8: decent work and economic growth, no. 9: industry, innovation and infrastructure, no. 12: responsible consumption and production and no. 14: life below water. Internal work arrangements must contribute to the objectives contained in no. 3: good health and well-being, no. 4: quality education and no. 5: gender equality.

## Share capital

The share capital consists of 2,600,000 shares, each with a nominal value of NOK 7. In November 2020 a capital increase of NOK 15.6 million plus a share premium reserve of NOK 138 million in November was resolved. The capital increase has not been registered as of 31

December 2020. All shares are owned by the Norwegian Ministry of Trade, Industry and Fisheries. The company's Articles of Association were updated in November 2020 and April 2021.

## The board

As of 31 December, the Board comprises four members. Seven board meetings were held in 2020. The work of the Board work is based on adopted board instructions. The most important matters decided by the Board are the company's strategies, goal and profit management, budgets with subsequent budget control, significant investment issues and authority granted to the administration. Other matters reviewed by the Board are mainly status reports in significant areas as well as risk assessments. The Board follows the Norwegian Code of Practice for Corporate Governance. Members of the Board are elected for two years at a time.

In 2020, the company continued the process of defining business objectives and key performance indicators. Instructions have been established for the Board and the CEO with emphasis on a clear division of responsibilities and tasks. The Board reviews its work and expertise annually. Liability insurance for the Members of the Board has been established.

Nina Frisak resigned from the Board in November 2020.

## Financial prospects

Based on the above, the company's and the group's market, credit and financial risk are considered to be moderate.

The Board believes that the company and the group are well positioned for the future. 2020 was a satisfactory year for the company and the group. With the projects being implemented, the net operating profit is expected to be lower in 2021 than 2020.

The coronavirus situation that arose in March 2020 has not had a significant impact on the group's operations. Going forward, the situation needs to be assessed as the pandemic develops, especially in the United States, and assessed with respect to potential delays involving important suppliers. Sub-contractor holdups may lead to overall project delays.

Skøyen, 29 April 2021



**Asbjørn Birkeland**  
Chairman of the Board



**Tore Olaf Rimmereid**  
Member of the Board



**Ann-Kari Heier**  
Member of the Board



**Arild Hustad**  
Member of the Board



**Jostein Rønneberg**  
CEO

Photo: Nina Holtan | ninaholtan.no

# Group and company accounts including financial notes

The group comprises the holding company Space Norway AS including the 100% owned subsidiaries Statsat AS and Space Norway HEOSAT AS (HEOSAT), as well as a 50% ownership in Kongsberg Satellite Services AS (KSAT). KSAT has been consolidated into the group accounts based on the gross profit method.

## Income statement

		Space Norway AS	
Operating income and expenses	Note	2020	2019
Operating income	1, 10	0	0
Income from communication services	1, 10	27,981,108	28,184,835
Other operating income	1, 10	46,684,015	98,804,281
<b>Total operating income</b>		<b>74,665,123</b>	<b>126,989,116</b>
Cost of materials		9,984,537	10,099,683
Personnel expenses	8	34,235,901	27,500,015
Depreciation	2	12,951,353	13,251,840
Amortisation		0	0
Cost related to communication services		6,173,730	6,314,151
Other operating expenses	5, 8	44,009,597	67,321,889
<b>Total operating expenses</b>		<b>107,355,117</b>	<b>124,487,579</b>
<b>Operating profit</b>		<b>-32,689,993</b>	<b>2,501,537</b>
<b>Financial income and expenses</b>			
Income from investment in other companies	3	55,000,000	55,000,000
Income from subsidiary		7,708,799	0
Other interest income		48,158	147,321
Other financial income	12	11,862,741	2,388,038
Other interest expenses	4	8,346,699	9,003,977
Other financial expenses	12	1,013,672	0
<b>Net financial items</b>		<b>65,259,328</b>	<b>48,531,382</b>
<b>Ordinary result before taxes</b>		<b>32,569,335</b>	<b>51,032,919</b>
Taxes	6	0	0
<b>Net income</b>		<b>32,569,335</b>	<b>51,032,919</b>
Transferred to retained earnings	7	32,569,335	51,032,919
<b>Total allocations</b>		<b>32,569,335</b>	<b>51,032,919</b>

		Space Norway Group	
Operating income and expenses	Note	2020	2019
Operating income	1, 10	498,485,652	455,944,039
Income from communication services	1, 10	24,863,709	25,067,436
Other operating income	1, 10	24,033,616	32,672,373
<b>Total operating income</b>		<b>547,382,977</b>	<b>513,683,848</b>
Cost of materials		88,131,495	64,366,507
Personnel expenses	8	154,163,996	138,647,074
Depreciation	2	71,120,869	66,853,440
Amortisation		999,500	0
Cost related to communication services		7,538,210	7,264,943
Other operating expenses	5, 8	209,604,366	124,651,599
<b>Total operating expenses</b>		<b>531,558,436</b>	<b>401,783,564</b>
<b>Operating profit</b>		<b>15,824,541</b>	<b>111,900,285</b>
<b>Financial income and expenses</b>			
Income from investment in other companies	3	0	260,368
Income from subsidiary		0	0
Other interest income		657,210	906,425
Other financial income	12	222,024,796	32,924,007
Other interest expenses	4	9,428,141	10,325,713
Other financial expenses	12	98,920,673	1,321,500
<b>Net financial items</b>		<b>114,333,192</b>	<b>22,443,587</b>
<b>Ordinary result before taxes</b>		<b>130,157,733</b>	<b>134,343,872</b>
Taxes	6	26,142,490	24,669,246
<b>Net income</b>		<b>104,015,243</b>	<b>109,674,626</b>
Transferred to retained earnings	7	104,015,243	109,674,626
<b>Total allocations</b>		<b>104,015,243</b>	<b>109,674,626</b>

## Statement of financial position

		Space Norway AS	
Assets	Note	31.12.2020	31.12.2019
<b>Fixed assets</b>			
<i>Intangible assets</i>			
Deferred tax assets	6	0	0
<b>Total intangible assets</b>		<b>0</b>	<b>0</b>
<b>Tangible assets</b>			
Operating movable property, furniture, tools, other	2	3,443,936	1,567,574
Buildings and other real estate	2	1,539,880	1,612,720
Machinery and equipment	2	98,247,987	110,528,991
Assets under construction	2		
<b>Total tangible assets</b>		<b>103,231,803</b>	<b>113,709,285</b>
<b>Fixed financial assets</b>			
Investments in group companies	3	163,025,424	7,992,000
Depositum		16,202,811	13,198,138
Other long-term receivables			
<b>Total fixed financial assets</b>		<b>179,228,235</b>	<b>21,190,138</b>
<b>Total fixed assets</b>		<b>282,460,038</b>	<b>134,899,423</b>
<b>Current assets</b>			
<i>Debitors</i>			
Accounts receivables	5	5,034,466	62,911,700
Other short term receivables		87,673,469	85,741,025
<b>Total receivables</b>		<b>92,707,935</b>	<b>148,652,725</b>
Cash and deposits	9	149,808,425	65,996,357
<b>Total current assets</b>		<b>242,516,360</b>	<b>214,649,082</b>
<b>Total assets</b>		<b>524,976,397</b>	<b>349,548,505</b>

		Space Norway Group	
Assets	Note	31.12.2020	31.12.2019
<b>Fixed assets</b>			
<i>Intangible assets</i>			
Deferred tax assets	6	14,712,799	10,444,371
<b>Total intangible assets</b>		<b>14,712,799</b>	<b>10,444,371</b>
<b>Tangible assets</b>			
Operating movable property, furniture, tools, other	2	25,550,103	21,049,654
Buildings and other real estate	2	74,235,880	67,656,720
Machinery and equipment	2	519,140,487	473,837,991
Assets under construction	2	1,802,388,843	697,664,751
<b>Total tangible assets</b>		<b>2,421,315,313</b>	<b>1,260,209,116</b>
<b>Fixed financial assets</b>			
Investments in group companies	3	0	0
Depositum		16,202,811	13,198,138
Other long-term receivables		2,044,000	6,013,500
<b>Total fixed financial assets</b>		<b>18,246,811</b>	<b>19,211,638</b>
<b>Total fixed assets</b>		<b>2,454,274,923</b>	<b>1,289,865,125</b>
<b>Current assets</b>			
<i>Debitors</i>			
Accounts receivables	5	62,391,265	58,081,540
Other short term receivables		224,555,301	151,172,522
<b>Total receivables</b>		<b>286,946,566</b>	<b>209,254,062</b>
Cash and deposits	9	672,173,868	347,081,123
<b>Total current assets</b>		<b>959,120,434</b>	<b>556,335,185</b>
<b>Total assets</b>		<b>3,413,395,356</b>	<b>1,846,200,310</b>

## Statement of financial position cont.

Space Norway AS			
Equity and liabilities	Note	31.12.2020	31.12.2019
<b>Paid-up equity</b>			
Unregisteres share capital		154,436,184	0
Share capital	7	2,600,000	2,600,000
<b>Total paid-up equity</b>		<b>157,036,184</b>	<b>2,600,000</b>
<b>Retained earnings</b>			
Other equity	7	165,062,607	132,493,308
<b>Total retained earnings</b>		<b>165,062,607</b>	<b>132,493,308</b>
<b>Total equity</b>	<b>7</b>	<b>322,098,791</b>	<b>135,093,308</b>
<b>Liabilities</b>			
Allowances for liabilities			
Other long term liabilities		4,000,000	4,000,000
Liabilities, ASBM	4		
<b>Liabilities Svalbard fibre optic cable</b>	<b>4, 5</b>	<b>132,011,465</b>	<b>144,909,797</b>
<b>Total long term liabilities</b>		<b>136,011,465</b>	<b>148,909,797</b>
<b>Short term liabilities</b>			
Trade creditors	5	8,376,485	5,017,563
Value added taxes		2,751,120	16,313
Other current liabilities	5	55,738,538	60,511,524
Tax payable		0	0
<b>Total short term liabilities</b>		<b>66,866,143</b>	<b>65,545,400</b>
<b>Total liabilities</b>		<b>202,877,608</b>	<b>214,455,197</b>
<b>Total equity and liabilities</b>		<b>524,976,397</b>	<b>349,548,505</b>
Guarantees		31,450,000	26,396,000

Space Norway Group			
Equity and liabilities	Note	31.12.2020	31.12.2019
<b>Paid-up equity</b>			
Unregisteres share capital		154,436,184	0
Share capital	7	2,600,000	2,600,000
<b>Total paid-up equity</b>		<b>157,036,184</b>	<b>2,600,000</b>
<b>Retained earnings</b>			
Other equity	7	741,247,876	637,377,745
<b>Total retained earnings</b>		<b>741,247,876</b>	<b>637,377,745</b>
<b>Total equity</b>	<b>7</b>	<b>898,284,060</b>	<b>639,977,745</b>
<b>Liabilities</b>			
Allowances for liabilities		18,468,000	16,558,500
Other long term liabilities		4,000,000	4,000,000
Liabilities, ASBM	4	1,985,106,258	889,492,460
<b>Liabilities Svalbard fibre optic cable</b>	<b>4, 5</b>	<b>127,174,128</b>	<b>139,544,292</b>
<b>Total long term liabilities</b>		<b>2,134,748,386</b>	<b>1,049,595,252</b>
<b>Short term liabilities</b>			
Trade creditors	5	85,364,641	27,792,611
Value added taxes		16,989,286	7,459,867
Other current liabilities	5	248,025,568	95,361,581
Tax payable		29,983,417	26,013,256
<b>Total short term liabilities</b>		<b>380,362,912</b>	<b>156,627,315</b>
<b>Total liabilities</b>		<b>2,515,111,298</b>	<b>1,206,222,567</b>
<b>Total equity and liabilities</b>		<b>3,413,395,356</b>	<b>1,846,200,310</b>
Guarantees		31,450,000	26,396,000

## Statement of cash flow

Cash flow from operational activities	Space Norway AS		Space Norway group	
	2020	2019	2020	2019
Profit before tax	32,569,335	51,032,919	130,157,733	109,742,873
- Taxes paid	-	-	-26,013,256	-
+ Depreciation	12,951,353	13,251,840	71,120,869	13,261,440
+ Amortisation fixed assets	-	-	999,500	-
+/- Change in trade receivables	57,877,234	-61,952,322	-4,309,725	-380,466
+/- Change in trade payables	3,358,922	-6,132,465	57,572,030	-6,070,275
+/- Change in other accounts	-6,975,332	-3,717,452	91,355,425	-33,215,762
Net cash flow from operational activities	99,781,511	-7,517,480	320,882,576	83,337,810
<b>Cash flow from investment activities</b>				
Purchase of property, plant and equipment	-2,473,871	-100,000	-1,233,469,648	-697,764,752
Cash from investments TS			-	-115,239,000
Dividend			-	55,000,000
Equity investment in Space Norway Heosat AS	-155,033,424	-3,000,000		
Other investment activities	-	-	-	-
Net cash flow from investment activities	-157,507,295	-3,100,000	-1,233,469,648	-758,003,752

Cash flow from financing activities	Space Norway AS		Space Norway group	
	2020	2019	2020	2019
Proceeds from new long term debt	-	-	-	889,492,460
Change in financing og fibre cable and ASBM	-12,898,332		1,083,243,634	
Proceeds from new equity issue	154,436,184		154,436,184	
Net cash flow from financing activities	141,537,852	-	1,237,679,818	889,492,460
Net change in cash and cash equivalents for the year	83,812,068	-10,617,480	325,092,746	214,826,518
Changes due to restated accounts for comparison	-	-	-	52,433,500
+ Cash and cash equivalents at the start of the year	65,996,357	149,808,425	347,081,123	79,821,105
= Cash and cash equivalents at the end of the year	149,808,425	139,190,945	672,173,868	347,081,123

Skøyen 29. april 2021



**Asbjørn Birkeland**  
Chairman of the Board



**Tore Olaf Rimmereid**  
Member of the Board



**Ann-Kari Heier**  
Member of the Board



**Arild Hustad**  
Member of the Board



**Jostein Rønneberg**  
CEO

Photo: Nina Holtan | ninaholtan.no

Space Norway

↑ Photo: SpaceX

## Note 1 Accounting principles

### Basis for consolidation of subsidiaries and joint venture

The group includes:

- Space Norway AS — holding company in the group
- StatSat AS — 100% owned subsidiary
- Space Norway Heosat AS — 100% owned subsidiary
- KSAT — 50% owned joint venture

The consolidated financial accounts show the financial statements presented as if the group was one single economic entity. All intercompany matters have been eliminated in the group accounts. The group accounts are based on common and consistent accounting principles, in line with the holding company. Subsidiaries and the joint venture are recognised on historical cost in the accounts of the holding company. StatSat AS and Space Norway Heosat AS have been consolidated line by line in the group accounts. The joint venture KSAT have been consolidated according to the gross profit method whereby a 50% share of income, expenses, assets and liabilities are included in the group accounts.

### General

The financial statements for 2020 for the holding company and the group includes profit and loss statement, statement of financial position, statement of cash flow and notes to the accounts, have been prepared in accordance with applicable financial reporting standards in Norway as of 31.12.2020.

The financial statements for the holding company and the group are based on general principles of historical cost, comparability, the going concern assumption, congruence and the precautionary principle. Transactions are recognised according to the cost at the date of transaction. Income are recognized in the income statement when earned and costs are compiled in accordance with recognised revenues. Further details regarding the accounting principles are defined below. When actual figures are not available at the time of reporting, the accounting practice requires management to prepare the best possible estimates for use in the profit and loss statement as well as statement of financial position. Please note that there may be a difference between estimates and the subsequent actual figures.

According to the relevant accounting principles, there are some exceptions to the general principles for recognition of income and costs. Where relevant, such exceptions are explained in the notes. In the applications of the accounting principles and presentation of transactions and other accounting issues, focus is on the economic effects and not only the pure legal basis. Probable, contingent, losses that can be quantified are accounted for in the financial statements.

### Classification of items in the statement of financial position

Assets relating to the product cycle as well as receivables payable within 12 months are defined as current assets. Other assets are classified as non-current assets. The same principle is applied with regards to liabilities.

### Recognition of income

Income is recognised in the profit and loss statement when it has been

earned. Prepayments for services to be delivered for a longer period are accrued and recognised at the time of delivery of the services in the future. Costs are compiled and recognised in the profit and loss statements in accordance with the time of delivery of the relevant services. Costs that cannot be attributed to the delivery of specific services are accounted for when they incur.

### **Non-current assets**

Non-current assets are recognised in the statement of financial position at historical cost, net of accumulated depreciation and amortization. Costs relating to normal maintenance and repair are expensed as they incur. Costs relating to replacements and renewals that will increase the economic lifetime of the assets are capitalised. Operating assets are expensed when replaced. Assets are considered to be non-current when they represent a certain economic life time and a significant cost.

### **Facilities under construction**

The subsidiary Space Norway HEOSAT AS are involved in the construction of two new satellites as well as the ground segment required to operate the satellites. The value of these assets are recognised based on actual cost.

### **Depreciation**

Ordinary depreciations are recognised according to a linear model based on the life time of the assets, based on historical cost. This model is also applied for intangible assets. Depreciations are recognised as ordinary operating expenses in the profit and loss statement.

### **Policies for foreign currency translation**

Receivables and liabilities in foreign currency are converted to NOK based on the average exchange rate by the end of the accounting year.

### **Deferred tax liabilities and taxes**

Deferred tax liabilities at the end of the year are calculated on the basis of temporary differences between their respective tax basis and the carrying amount in the statement of financial position. Calculation is based on the Norwegian nominal tax rate. Positive and negative differences are netted within corresponding time of occurrence. However, items relating to acquisitions and pension liabilities are treated specifically. Deferred tax assets occur when temporary differences represents tax deductions in the future. Tax expense for the year is based on the change in deferred taxes and deferred tax assets and payable tax for the actual year corrected for possible prior errors in calculation of payable tax.

### **Statement of cash flow**

The statement of cash flow is based on the indirect method. Cash and cash equivalents consist of cash, bank deposits and other short term liquid assets that can be converted to cash with insignificant risk and a maturity of less than three months.

### **Change in accounting principle**

During 2020 the group has changed the accounting principle for consolidation of the joint venture from the equity method to the gross method. Group accounts for 2019 has been changes accordingly for comparison. The net effect net profit and total equity is 0. The background to the change in accounting principle is to provide a more comprehensive presentations of the joint venture KSAT.

## Note 2 Non-current assets

<b>Space Norway AS:</b>	<b>Machinery and plants</b>	<b>Land, buildings and other property</b>	<b>Operating movable property, furniture etc.</b>		<b>Total</b>
Historical cost as of 1. January 2020	295,407,505	2,010,903	3,287,245		300,705,653
Investments	0	0	2,473,871		2,473,871
Disposals (at cost)	0				0
<b>Total cost at 31. December 2020</b>	<b>295,407,505</b>	<b>2,010,903</b>	<b>5,761,116</b>		<b>303,179,524</b>
<b>Accumulated depreciation and write-downs at 31. December</b>	<b>197,159,518</b>	<b>471,023</b>	<b>2,317,180</b>		<b>199,947,721</b>
Book value 31. December 2020	98,247,987	1,539,880	3,443,936		103,231,803
Ordinary depreciation for the year	12,281,004	72,840	597,509		<b>12,951,353</b>
Depreciation period (ordinary)	25 years	25 years	5 years		
Depreciation plan	Linear	Linear	Linear		
<b>Group:</b>	<b>Machinery and plants</b>	<b>Land, buildings and other property</b>	<b>Operating movable property, furniture etc.</b>		<b>Total</b>
Historical cost as of 1. January 2020	937,713,005	103,959,903	64,528,879	697,664,752	1,803,866,539
Investments	104,890,000	10,739,500	13,116,058	1,104,724,090	1,233,469,648
Disposals (at cost)	-999,500	-367,000	-1,362,500	0	-2,729,000
<b>Total cost at 31. December 2020</b>	<b>1,041,603,505</b>	<b>114,332,403</b>	<b>76,282,437</b>	<b>1,802,388,842</b>	<b>3,034,607,187</b>
<b>Accumulated depreciation and write-downs at 31. December</b>	<b>522,463,018</b>	<b>40,096,523</b>	<b>50,732,334</b>	<b>0</b>	<b>613,291,875</b>
Book value 31. December 2020	519,140,487	74,235,880	25,550,103	1,802,388,842	2,421,315,311
Ordinary depreciation for the year	58,659,504	3,871,840	8,589,525	0	71,120,869
Write-down for the year	999,500	0	0	0	
Depreciation period (ordinary)	15-25 years	20-50 years	5-10 years		
Depreciation plan	Linear	Linear	Linear		

### Note 3 Shares in subsidiaries and joint ventures

Subsidiary and joint-venture:	Business address	Number of shares outstanding	Number of shares owned	Nominal value per share	Group's share of capital and votes	Book value 31/12/2020
StatSat AS	Oslo	1000	1000	1,000	100%	2,000,000
Space Norway Heosat AS	Oslo	100	100	191,000	100%	158,133,424
Ksat AS	Tromsø	2,000,000	1,000,000	1	50%	2,892,000
<b>Total, shares in other companies</b>						<b>163,025,424</b>

The ownership in KSAT are consolidated in the group accounts in accordance with the gross method.

## Note 4 Financing of the Svalbard fibre optic cable and ASBM

### Financing of the Svalbard fibre optic cable

The long term debt to the Norwegian Space Agency relates to the investment in the fibre optic cable from Svalbard to the mainland. Space Norway and the Norwegian Space Agency has an obligation to deliver satellite data to NOAA and NASA over a period of 25 years. The receivables relating to NOAA and NASA for this service was sold to the US financing company HannonArmstrong, which in turn provided a loan for the financing of the fibre optic cable. The loan has been fully repaid. The carrying amount relating to this item represents the remaining commitments to deliver services to NOAA and NASA.

### Financing ASBM

The long-term debt as of 31. December 2020 relates to prepayments from customers for the future delivery of services. The services will commence when the ASBM capacity commences operations.

## Note 5 Transactions with related parties

The company is a related party with the following companies within the group:

- Space Norway AS (holding company)
- Statsat AS (subsidiary)
- Space Norway HEOSAT AS (subsidiary)
- Kongsberg Satellite Services AS (50% owned joint venture)

<b>Receivables</b>	<b>2020</b>	<b>2019</b>
Accounts receivable	4,132,025	62,992,421
Other receivable	-	0
<b>Total</b>	<b>4,132,025</b>	<b>62,992,421</b>
<b>Liabilities</b>		
Accounts payable	-	-
Other short term liabilities	44,882,826	45,688,758
Financing Svalbard fibre optic cable	9,674,675	10,731,011
<b>Total</b>	<b>54,557,501</b>	<b>56,419,769</b>
<b>Transactions</b>		
Revenues from group companies	<b>31,554,856</b>	<b>64,679,732</b>
Purchase from group companies	985,129	-

## Note 6 Taxes

<b>Tax expense — Space Norway AS</b>	<b>2020</b>	<b>2019</b>
Profit before taxes	32,569,335	51,032,919
Permanent differences	-60,849,477	-52,853,586
Change in temporary differences	4,181,290	8,640,426
Group contribution received	<b>7,708,799</b>	<b>0</b>
To (+) / from (-) deferred tax assets	0	-6,819,759
<b>Basis for calculating tax expense</b>	<b>-16,390,055</b>	<b>0</b>
Tax expense before group contribution	0	0
Effect of group contribution	0	0
<b>Tax expense for the year (16-22 %)</b>	<b>0</b>	<b>0</b>
<b>Reconciliation of tax expense:</b>		
Tax expense on net income for the year	0	0
Change in deferred tax	0	0
<b>Total tax expense for the year</b>	<b>0</b>	<b>0</b>
<b>Basis for deferred tax assets, differences to be netted:</b>		
Non-current assets	-19,277,485	-15,157,089
Profit-/loss account	179,574	224,467
Other receivables	0	0
Provisions for commitments	-4,000,000	-4,000,000
Financial assets	0	0
Pension liabilities	0	0
Tax loss carry forwards	-194,479,730	-178,073,642
Basis for deferred tax	-217,577,641	-197,006,264
Differences not included in temporary differences	217,577,641	197,006,264
Basis for calculation of deferred tax assets	0	0
<b>Deferred tax assets as of 31. December</b>	<b>0</b>	<b>0</b>

<b>Tax expense — Group</b>	<b>2020</b>	<b>2019</b>
Profit before taxes	130,157,733	134,343,871
Permanent differences	-59,801,499	-51,881,511
Change in temporary differences	22,737,413	13,823,936
Group contribution received	<b>0</b>	<b>0</b>
To (+) / from (-) deferred tax assets	-1,808,182	-6,830,771
<b>Basis for calculating tax expense</b>	<b>91,285,465</b>	<b>89,455,525</b>
Tax expense before group contribution	31,679,346	26,013,256
Effect of group contribution	-1,695,929	
<b>Tax expense for the year (16-22 %)</b>	<b>29,983,417</b>	<b>26,013,256</b>
<b>Reconciliation of tax expense:</b>		
Tax expense on net income for the year	30,409,417	25,871,256
Change in deferred tax	-4,266,927	992
<b>Total tax expense for the year</b>	<b>26,142,490</b>	<b>25,872,248</b>
<b>Basis for deferred tax assets, differences to be netted:</b>		
Non-current assets	-64,135,387	-49,905,868
Profit-/loss account	-1,452,926	-1,816,033
Other receivables	-3,226,000	-50,000
Provisions for commitments	-22,468,000	-20,558,500
Financial assets	-1,064,500	4,163,000
Pension liabilities	2,044,000	2,413,500
Tax loss carry forwards	-194,479,730	-179,881,824
Basis for eferred tax	-284,782,543	-245,635,725
Differences not included in temporary differences	217,577,641	198,814,446
Basis for calculation of deferred tax assets	-67,204,902	-46,821,279
<b>Deferred tax assets as of 31. December</b>	<b>-14,712,798</b>	<b>-10,444,371</b>

A part of the operations in the group relates to Svalbard with an applicable tax rate of 16%. When calculating deferred tax assets in the statement of financial position, the applicable tax rate for this part of the operations has been applied.

## Note 7 Equity

Total paid-in equity is NOK 18 200 000, based on 2 600 000 shares each with a nominal value of NOK 7 per share.

### Ownership

All the shares in the company are owned by the Norwegian Ministry of Trade, Industry and Fisheries.

Space Norway AS	Share capital	Premium fund	Other equity	Total equity
Equity as of 1. January 2020	2,600,000	0	132,493,308	135,093,308
Resolved, not registered issue of new shares	15,600,000	138,836,184	0	154,436,184
Retained earnings for the year	0	0	32,569,335	32,569,335
<b>Equity as of 31. December 2020</b>	<b>18,200,000</b>	<b>138,836,184</b>	<b>165,062,607</b>	<b>322,098,791</b>

Group	Share capital	Premium fund	Other equity	Total equity
Equity as of 1. January 2020	2,600,000	0	637,378,245	639,978,245
Resolved, not registered issue of new shares	15,600,000	138,836,184	0	154,436,184
Difference related to conversion from TS			-145,613	-145,613
Retained earnings for the year	0		104,015,243	104,015,243
<b>Equity as of 31. December 2020</b>	<b>18,200,000</b>	<b>138,836,184</b>	<b>741,247,875</b>	<b>898,284,060</b>

## Note 8 Remuneration

Payroll and pensions	Space Norway AS		Group	
	2020	2019	2020	2019
Wages	24,545,804	21,383,335	130,057,722	110,468,155
Employer's tax including pensions	3,991,995	3,260,965	11,718,868	10,486,491
Pension costs	2,155,192	1,569,958	10,241,342	8,257,395
Other payroll expenses	3,542,909	1,285,757	9,790,721	10,831,020
<b>Total payroll and expenses</b>	<b>34,235,901</b>	<b>27,500,015</b>	<b>161,808,653</b>	<b>140,043,060</b>
Number of employees as of 31. December	<b>26</b>	23	<b>261</b>	237

Payroll and pensions in the subsidiary Space Norway HEOSAT AS are capitalised as assets under construction.

	CEO	Board
Wages and remuneration to the board	1,530,415	940,000
Pension costs	95,473	-
Other remuneration	63,600	-

The Space Norway group applies a moderate wage policy.

Space Norway has an agreement regarding compulsory occupational pension scheme (OTP) for all employees with Storebrand.

Fees to external auditor	2019		2020	
	Space Norway AS	Group	Space Norway AS	Group
Statutory audit	132,500	361,500	138,272	602,073
Advisory services relating to the accounting	30,000	30,000	32,000	32,000
Tax consultancy services in KSAT	-	2,068,000	-	1,026,000
Other non-audit services	82,620	116,620	114,900	178,900
<b>Total fees</b>	<b>245,120</b>	<b>2,576,120</b>	<b>285,172</b>	<b>1,838,973</b>

The company has not issued any loans or guarantees to the CEO, members of the board or other related parties.

The company has no obligation to provide members of executive management, board members or the chairman of the board any specific remuneration or payment upon termination or change in employment or position.

The company has not entered into any agreement with members of the board or executive management regarding share of profit or options.

The company has no obligations to provide options or other rights regarding the purchase, subscription or divestiture of shares for members of the board or executive management.

## Note 8 Cont.

### The board of directors statement of guidelines for remuneration

The executive management in the company is the CEO and two other executives. According to these guidelines, total remunerations consist of one or more of the following components: Base wages, variable wages (including bonus) and other remuneration (such as pensions, severance pay, fringe benefits and other). The company do not enter into agreements relating to severance compensation or other remuneration in relation to resignation.

### The main principles for remuneration arrangements

The remuneration level in Space Norway shall be competitive but not among the highest with respect to the industry. The remuneration arrangements must be structured so no unreasonable remuneration occurs due to external factors beyond the influence of management. The board of directors shall maintain an overview of the total value of the remuneration for each manager and ensure that executive remuneration do not represent unfortunate effects for the company or its reputation. Members of the executive management shall not be entitled to remuneration for board representation in 100% owned companies in the group.

The company has not entered into any agreements regarding bonuses or other equivalent arrangements. The company may at its own discretion agree on the provision of one-off or other time limited compensation arrangements in periods with exceptionally high workload.

### Pensions

The pension arrangements for executive management is based on the

same terms as all other employees. The company has established a defined contribution pension scheme with Storebrand.

### Other remuneration arrangements

The company covers expenses for mobile phone for the employees as well as residential broadband connection subject to agreement. The company covers expenses relating to business trips and diet in accordance with official rates. The company do not provide arrangements for company car, however car allowance are covered subject to agreement. The company has entered into a commuter agreement with some employees commuting between their residence and company offices at Skøyen. The agreement provides for refund of costs for travel from residence to company offices.

Members of executive management and/or board of directors, 2020	Wages and board remuneration	Other remuneration	Pensions	Loan
Chairman of the board	300,000			0
CEO	1,530,415	63,600	95,473	0
Head of infrastructure	1,209,383		95,473	0
CFO	1,269,672	60,457	95,473	0

Remuneration in 2019.

Members of executive management and/or board of directors, 2020	Wages and board remuneration	Other remuneration	Pensions	Loan
Chairman of the board	262,761	21,051	0	0
CEO	1,632,499	8,573	94,961	0
Head of infrastructure	1,113,940	17,994	94,961	0
CFO	1,230,993	16,494	94,961	0

## Note 9 Restricted funds

A total of NOK 1,546,879 in cash represents restricted funds relating to tax deduction on behalf of employees for Space Norway AS and NOK 7,119,328 for the group.

## Note 10 Segment information

	Space Norway AS	Group
Norway	74,665,123	77,418,477
Europe (outside Norway)	0	174,943,000
Asia	0	78,185,500
America	0	215,455,500
Other	0	1,380,500
<b>Total revenues</b>	<b>74,665,123</b>	<b>547,382,977</b>

## Note 11 Deposits and guarantees

The holding company has issued a guarantee and provided a payment of deposit for an amount of MUS\$ 3,7 towards the FCC relating to market access in the USA. If the programme relating to the arrangement do not materialise, the paid-up deposit will not be refunded and represent a loss for the company.

## Note 12 Financial income and expenses

	Space Norway AS		Group	
	2020	2019	2020	2019
Foreign currency gains	11,862,741	2,388,038	222,010,797	32,924,007
Other financial income	-	-	14,000	-
<b>Total financial income</b>	<b>11,862,741</b>	<b>2,388,038</b>	<b>222,024,797</b>	<b>32,924,007</b>
Foreign currency losses	1,013,659	-	98,728,160	1,321,500
Other financial expenses	13	-	192,513	-
<b>Total financial expenses</b>	<b>1,013,672</b>	<b>-</b>	<b>98,920,673</b>	<b>1,321,500</b>

# Auditor's report





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Til generalforsamlingen i Space Norway AS

## Uavhengig revisors beretning

### Uttalelse om revisjonen av årsregnskapet

#### Konklusjon

Vi har revidert Space Norway AS' årsregnskap som viser et overskudd i selskapsregnskapet på kr 32 569 335 og et overskudd i konsernregnskapet på kr 104 015 243. Årsregnskapet består av:

- selskapsregnskapet, som består av balanse per 31. desember 2020, resultatregnskap og kontantstrømoppstilling for regnskapsåret avsluttet per denne datoen og noter til årsregnskapet, herunder et sammendrag av viktige regnskapsprinsipper, og
- konsernregnskapet, som består av balanse per 31. desember 2020, resultatregnskap og kontantstrømoppstilling for regnskapsåret avsluttet per denne datoen og noter til årsregnskapet, herunder et sammendrag av viktige regnskapsprinsipper.

Etter vår mening:

- er årsregnskapet avgitt i samsvar med lov og forskrifter
- gir det medfølgende selskapsregnskapet et rettviseende bilde av den finansielle stillingen til Space Norway AS per 31. desember 2020 og av selskapets resultater og kontantstrømmer for regnskapsåret som ble avsluttet per denne datoen i samsvar med regnskapslovens regler og god regnskapsskikk i Norge.
- gir det medfølgende konsernregnskapet et rettviseende bilde av den finansielle stillingen til konsernet Space Norway AS per 31. desember 2020 og av konsernets resultater og kontantstrømmer for regnskapsåret som ble avsluttet per denne datoen i samsvar med regnskapslovens regler og god regnskapsskikk i Norge.

#### Grunnlag for konklusjonen

Vi har gjennomført revisjonen i samsvar med lov, forskrift og god revisjonsskikk i Norge, herunder de internasjonale revisjonsstandardene International Standards on Auditing (ISA-ene). Våre oppgaver og plikter i henhold til disse standardene er beskrevet i Revisors oppgaver og plikter ved revisjon av årsregnskapet. Vi er uavhengige av selskapet og konsernet slik det kreves i lov og forskrift, og har overholdt våre øvrige etiske forpliktelser i samsvar med disse kravene. Etter vår oppfatning er innhentet revisjonsbevis tilstrekkelig og hensiktsmessig som grunnlag for vår konklusjon.

#### Øvrig informasjon

Ledelsen er ansvarlig for øvrig informasjon. Øvrig informasjon omfatter informasjon i årsrapporten bortsett fra årsregnskapet og den tilhørende revisjonsberetningen.

Vår uttalelse om revisjonen av årsregnskapet dekker ikke øvrig informasjon, og vi attesterer ikke den øvrige informasjonen.

KPMG AS, a Norwegian limited liability company and member firm of the KPMG network of independent member firms affiliated with KPMG International Cooperative ("KPMG International"), a Swiss entity.

Statsautoriserte revisorer - medlemmer av Den norske Revisorforening

Offices in:

Oslo	Everum	Mo i Rana	Stord
Ålia	Finnnes	Molde	Straume
Arendal	Hamar	Skien	Tromsø
Bergen	Haugesund	Sandefjord	Trondheim
Bodo	Kragerø	Sandnessjøen	Tynset
Drammen	Kristiansand	Stavanger	Ålesund



**Revisors beretning - 2020**  
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I forbindelse med revisjonen av årsregnskapet er det vår oppgave å lese øvrig informasjon med det formål å vurdere hvorvidt det foreligger vesentlig inkonsistens mellom øvrig informasjon og årsregnskapet, kunnskap vi har opparbeidet oss under revisjonen, eller hvorvidt den tilsynelatende inneholder vesentlig feilinformasjon.

Dersom vi konkluderer med at den øvrige informasjonen inneholder vesentlig feilinformasjon er vi pålagt å rapportere det. Vi har ingenting å rapportere i så henseende.

#### Styrets og daglig leders ansvar for årsregnskapet

Styret og daglig leder (ledelsen) er ansvarlig for å utarbeide årsregnskapet i samsvar med lov og forskrifter, herunder for at det gir et rettviseende bilde i samsvar med regnskapslovens regler og god regnskapsskikk i Norge. Ledelsen er også ansvarlig for slik intern kontroll som den finner nødvendig for å kunne utarbeide et årsregnskap som ikke inneholder vesentlig feilinformasjon, verken som følge av misligheter eller utilsiktede feil.

Ved utarbeidelsen av årsregnskapet er ledelsen ansvarlig for å ta standpunkt til selskapets og konsernets evne til fortsatt drift, og på tilbørlig måte å opplyse om forhold av betydning for fortsatt drift. Forutsetningen om fortsatt drift skal legges til grunn for årsregnskapet så lenge det ikke er sannsynlig at virksomheten vil bli avvirket.

#### Revisors oppgaver og plikter ved revisjonen av årsregnskapet

Vårt mål med revisjonen er å oppnå betryggende sikkerhet for at årsregnskapet som helhet ikke inneholder vesentlig feilinformasjon, verken som følge av misligheter eller utilsiktede feil, og å avgi en revisjonsberetning som inneholder vår konklusjon. Betryggende sikkerhet er en høy grad av sikkerhet, men ingen garanti for at en revisjon utført i samsvar med lov, forskrift og god revisjonsskikk i Norge, herunder ISA-ene, alltid vil avdekke vesentlig feilinformasjon som eksisterer. Feilinformasjon kan oppstå som følge av misligheter eller utilsiktede feil. Feilinformasjon blir vurdert som vesentlig dersom den enkeltvis eller samlet med rimelighet kan forventes å påvirke økonomiske beslutninger som brukerne foretar basert på årsregnskapet.

Som del av en revisjon i samsvar med lov, forskrift og god revisjonsskikk i Norge, herunder ISA-ene, utøver vi profesjonelt skjønn og utviser profesjonell skepsis gjennom hele revisjonen. I tillegg:

- identifiserer og anslår vi risikoen for vesentlig feilinformasjon i regnskapet, enten det skyldes misligheter eller utilsiktede feil. Vi utformer og gjennomfører revisjonshandlinger for å håndtere slike risikoer, og innhenter revisjonsbevis som er tilstrekkelig og hensiktsmessig som grunnlag for vår konklusjon. Risikoen for at vesentlig feilinformasjon som følge av misligheter ikke blir avdekket, er høyere enn for feilinformasjon som skyldes utilsiktede feil, siden misligheter kan innebære samarbeid, forfalskning, bevisste utelatelser, uriktige fremstillinger eller overstyring av internkontroll.
- opparbeider vi oss en forståelse av den interne kontroll som er relevant for revisjonen, for å utforme revisjonshandlinger som er hensiktsmessige etter omstendighetene, men ikke for å gi uttrykk for en mening om effektiviteten av selskapets og konsernets interne kontroll.
- evaluerer vi om de anvendte regnskapsprinsippene er hensiktsmessige og om regnskapsestimatene og tilhørende noteopplysninger utarbeidet av ledelsen er rimelige.
- konkluderer vi på hensiktsmessigheten av ledelsens bruk av fortsatt drift-forutsetningen ved avleggelsen av regnskapet, basert på innhentede revisjonsbevis, og hvorvidt det foreligger vesentlig usikkerhet knyttet til hendelser eller forhold som kan skape tvil av betydning om selskapets og konsernets evne til fortsatt drift. Dersom vi konkluderer med at det eksisterer vesentlig usikkerhet, kreves det at vi i revisjonsberetningen henleder oppmerksomheten på tilleggsopplysningene i regnskapet, eller, dersom slike tilleggsopplysninger ikke er tilstrekkelige, at vi modifiserer vår konklusjon om årsregnskapet og årsberetningen. Våre konklusjoner er basert på revisjonsbevis innhentet inntil datoen for revisjonsberetningen. Etterfølgende hendelser eller forhold kan imidlertid medføre at selskapet og konsernet ikke fortsetter driften.



Revisors beretning - 2020  
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- evaluerer vi den samlede presentasjonen, strukturen og innholdet, inkludert tilleggsopplysningene, og hvorvidt årsregnskapet representerer de underliggende transaksjonene og hendelsene på en måte som gir et rettviseende bilde.
- innhenter vi tilstrekkelig og hensiktsmessig revisjonsbevis vedrørende den finansielle informasjonen til enhetene eller forretningsområdene i konsernet for å kunne gi uttrykk for en mening om det konsoliderte regnskapet. Vi er ansvarlige for å lede, følge opp og gjennomføre konsernrevisjonen. Vi alene er ansvarlige for vår revisjonskonklusjon.

Vi kommuniserer med styret blant annet om det planlagte omfanget av revisjonen og til hvilken tid revisjonsarbeidet skal utføres. Vi utveksler også informasjon om forhold av betydning som vi har avdekket i løpet av revisjonen, herunder om eventuelle svakheter av betydning i den interne kontrollen.

#### Uttalelse om andre lovmessige krav

##### Konklusjon om årsberetningen

Basert på vår revisjon av årsregnskapet som beskrevet ovenfor, mener vi at opplysningene i årsberetningen om årsregnskapet, forutsetningen om fortsatt drift og forslaget til resultatdisponering er konsistente med årsregnskapet og i samsvar med lov og forskrifter.

##### Konklusjon om registrering og dokumentasjon

Basert på vår revisjon av årsregnskapet som beskrevet ovenfor, og kontrollhandlinger vi har funnet nødvendig i henhold til internasjonal standard for attestasjonsoppdrag (ISAE) 3000 «Attestasjonsoppdrag som ikke er revisjon eller forenklet revisorkontroll av historisk finansiell informasjon», mener vi at ledelsen har oppfylt sin plikt til å sørge for ordentlig og oversiktlig registrering og dokumentasjon av selskapets regnskapsopplysninger i samsvar med lov og god bokføringskikk i Norge.

Oslo, 28. mai 2021  
KPMG AS

Øivind Karlsen  
Statsautorisert revisor  
(elektronisk signert)

Penneo Dokumentnøkkel: GOE1C-47GB1-YM417-HQCP2-U1MFZ-VIFHD

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**Øivind Karlsen**  
Statsautorisert revisor  
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# Group structure and shareholdings as of 31 December 2020

At the end of 2020, the Space Norway Group comprised the parent company and three subsidiaries. The share capital in the parent company consists of 2600000 shares of a nominal value of NOK 7. Space Norway AS is wholly owned by the Norwegian Ministry of Trade, Industry and Fisheries.

