ANNUAL REPORT 2018

KSAT
KONGSBERG SATELLITE SERVICES

Rolf Skatteboe

PRESIDENT'S MESSAGE

One of the articles in this year's annual report is entitled "The Noble Art of Ground station operation." You might ask "is it an Art?". Isn't it just about setting up an antenna, waiting for a satellite to pass, and then receiving some data? Though alluringly simple, that's a misconception. There's much more to it.

Kongsberg Satellite Services (KSAT) has spent most of the 50 years it has existed in refining the operations of its ground stations. That started with location. For polar orbiting satellites, it's important to be close to the poles to realize cost-efficient operations. We have that, both in Antarctica and in the Arctic. Every pass of every satellite can be accounted for twice per orbit. Then there is technology; driving and buying expensive cars or big trucks depends on what you want to achieve. At KSAT, we have diversified our service offering, and our 170 antennas at 21 locations come in different shapes and forms. KSAT^{LITE} for the SmallSat guys. Large robust systems for our institutional users that need 100% reliability and huge amounts of data back to their processing centers in a wink of an eye. Furthermore, technology changes continuously. It used to be based on radio frequency signals. But nowadays optical signals, laser communication and intersatellite links are gaining prominence, and again KSAT is at the forefront. We'll augment our existing RF antenna network with a hybrid system of all available technologies. Combined behind one front end you'll find RF, Optical, LEO, MEO or even GEO. If you launch a satellite, you need not worry about data collection and back-haul. We'll do that for you. Communication is the keyword. Satellites need to communicate or they are useless. You need a sender and a receiver; KSAT is both.

However, more important is the scheduling and optimizing of operations. You probably want to get your stuff at specified times with the priority you have requested. Hence it is not just about buying an antenna and assuming it'll work. KSAT has in 2018 developed its systems further to be even better in all the areas it serves. Ground based communication is straightforward; efficient space communication is a noble art.

Can you hear me, Major Tom?
Can you hear me, Major Tom?
Can you "Here am I floating 'round my tin can
Far above the moon
Planet Earth is blue
And there's nothing I can do"

Looking into the space sector value chain reveals interesting perspectives. It is commonly accepted that the money for growth comes from services. One may wonder why it takes so long to get it off the ground.

One answer is the availability of data. Another is cost. Both optical and radar data have been expensive. To a certain extent, the SmallSat sector has eased the problem on the optical side, but the market still needs reliable data sources at affordable prices. In the era of focus on technology; smaller, cheaper constellations have been born. Now it's time to focus on market demands. KSAT is focusing on radar for its services. It has been our goal to be the only truly independent multi-mission service provider offering near-real time services. Consequently, we have signed up with all the current SAR data providers to ensure local processing capabilities at our ground stations. When we're delivering ship detection services, data must be analyzed on the spot before the ship disappears. Data centers are an excellent addition for non-real time analytics, but near-real time services must take place at the scene. KSAT has long been the preferred service provider for many reference customers, including the European Maritime Safety Agency (EMSA). Our near real time service to EMSA requires that data are collected, analyzed and delivered in less that 20 minutes. That's almost as fast a satellite flies. There have been some interesting additions to our data portfolio in 2018; three satellites have been added, while we're waiting for our little pet, the Norwegian MicroSAR. It's specially designed to locate ships as small as four meters long, and will be a worthy addition to our services in 2020, just around the corner.

The satellite market is changing. There will be an increased focus on services in the years to come. That's inevitable, as it indeed reflects the aphorism "follow the money". The big bucks have long not been in building and launching satellites, if ever. Technology development and out-of-the-box thinking is essential in offering new services, but it's operational services that sustain. KSAT is now optimizing it's ship detection service. It will be the most efficient and accurate service on the market. The combination of multiple data sources, efficient data collection and independent parallel analysis will significantly improve maritime situational awareness and pictures. We believe that Maritime situational awareness as a service is where we are headed. The end service, its content and quality, is all that a user should have to care about.

I'm pleased to report that KSAT continues to develop positively. A staff of some 200 dedicated persons focuses on the development and delivery of our services. We are actively searching for new opportunities and improving ongoing operations. I had a moment of reflection when I looked at the empty pedestal outside my office window in Tromsø this fall. The legacy antenna built in 1972 wasn't there anymore. Its pedestal was empty only for a short while. The conclusion was clear. One cannot dwell on the past; our focus must be on what's ahead.

The Noble Art of ground station operation is more than a maxim. It's what we do 24/7 with nearly half a million contacts per year. The data that we are capturing and delivering will help drive progress in the space sector. We'll do our part.

ROLF SKATTEBOE
President

THE NOBLE AP
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The Noble Art* of Ground Station operation is a term coined by Kongsberg Satellite Services (KSAT). The 2016 KSAT Annual Report presented the Noble Art of "Launch and Early Operations (LEOP). It doesn't stop there.

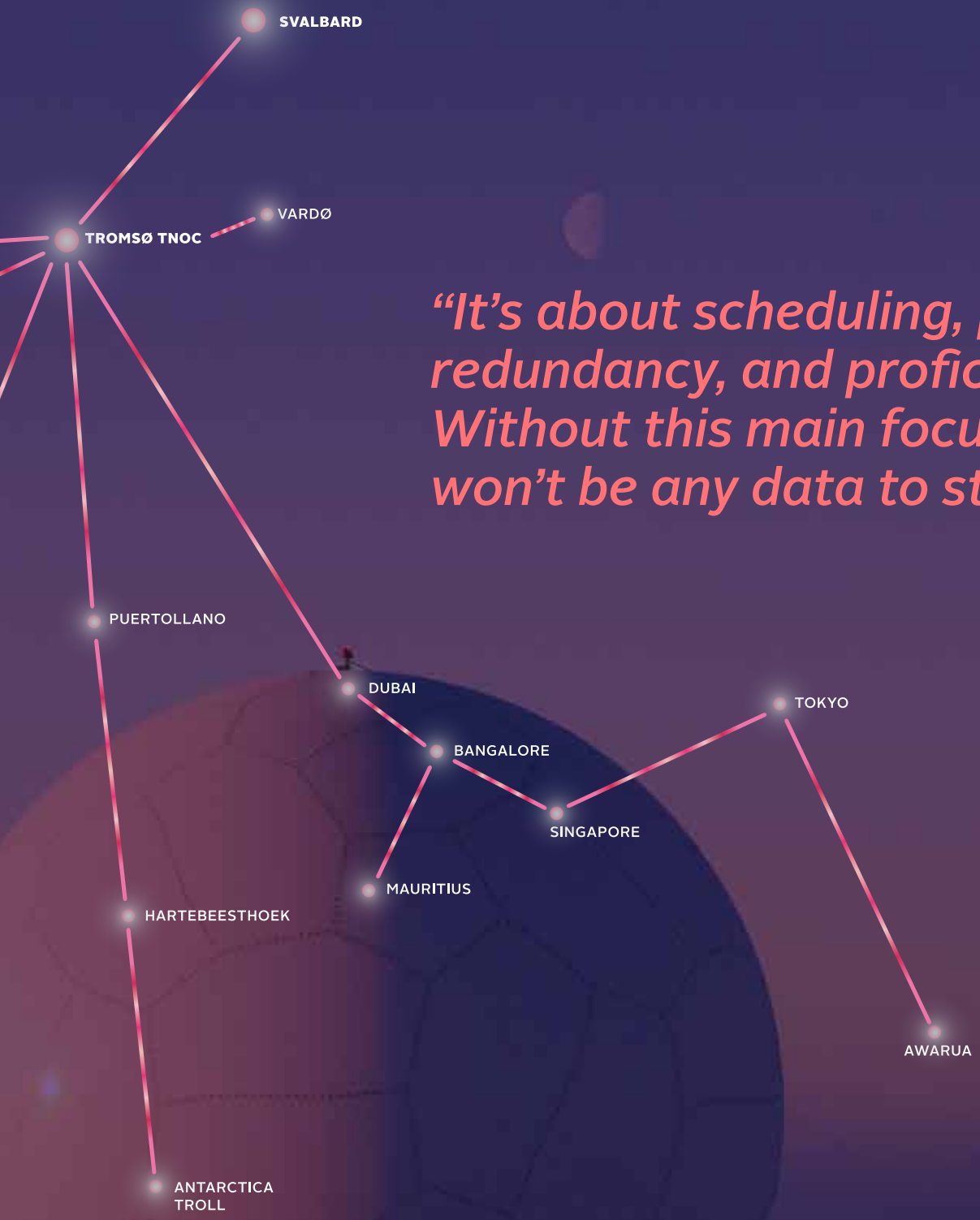
* THE IDIOM "THE NOBLE ART OF" originally was applied to boxing as it was practiced in the gentlemen clubs of Victorian England. The concept of it being noble came from the members of the clubs regarding themselves to be of higher rank than everyday folk. KSAT has taken that derivation literally, as its stations definitely are terrestrial, on the ground, while their staffs apply their skills to dealing with matters higher up, in the celestial sphere.

When KSAT was established in its current form, the focus of one of the first tasks was on was a redesign of the operational concept for satellite data acquisition and control. Before KSAT, the industry had pretty much been based on Apollo-era operational concept. This included a direct link between one satellite, one set of mission specific back-end electronics, and of course one antenna. This is hardly a cost-effective configuration. It entails huge infrastructure costs and lots of idle time on its systems.

In designing a new antenna system, it's important to choose the right one, neither too small nor too big. A common mistake is to overspecify G/T requirements, which in turn drive the size of the dish. Antennas are definitely not one size fits all, as some service providers in the market tend to believe. Operational experience at different geographical locations permits KSAT to suggest the right antenna for a mission. The foundation design is also important. For smaller Ka-band systems a much more rigid design is needed than the traditional S-band foundation. The KSAT antenna park spans everything from 2.4m till 13m dishes. Small is beautiful, as capital expenditures drives the final service charge to a user.

One may note a parallel, that the car industry is changing. The number of electric cars is increasing at an impressive pace. Some car manufacturer even say they'll stop making fossile- fueled cars within a couple of years. Their focus is on new technology. KSAT is following a similar trend. Within the next decade, radio frequency will not be the only way to communicate with satellites. Optical (or laser) links will be used as well. It's also expected that Low Earth Orbiting Satellites (LEO) will communicate directly with satellites in higher orbits. Linked through a satellite-to-satellite network, it will be possible to command and task a satellite in real-time. Hence, the task of optimizing data collection and directing it to the most suitable nearby ground station in the worldwide KSAT network is simplified. The network now has more than 170 antennas at 21 different geographical locations. All are controlled from the operations center in Tromsø, Norway. The increased flexibility improves the cost performance of any system. The car industry analogy is relevant, as a satellite owner will only specify the communication link that is optimized for a particular mission; the ground station operator must employ the necessary technology. This is why KSAT has initiated a project to build a hybrid system that combines all available technologies behind a common interface. As with cars, the choice is of the ones most suited for the actual operation. Electric in the city, gasoline for a long haul. The first step will be combining RF, LEO and MEO/GEO. The next step will be including an optical terminal. KSAT has an ongoing activity in which we'll install optical terminals in 2019 to gain operational experience.

The logical next step will be to optimize data storage and dissemination. The cloud concept has recently reached the ground station arena. The European Union's Copernicus Program is optimizing its ground segment by introducing cloud based solutions for pre-processing and data storage. This permits the amount of mission-specific equipment to be minimized and the operational flexibility to be maximized. Communication



"It's about scheduling, priority, redundancy, and proficiency. Without this main focus, there won't be any data to store."

between the ground station and the cloud is an important parameter and with the decreasing cost of fiber optical lines. The distance between a ground station and the cloud isn't important. Geographical location and operational experience is far more important than the distance from the ground station to the cloud.

The noble art of ground station operation encompasses more than pointing an antenna at a satellite. It's about meeting customer needs for secure and reliable access to a satellite and its data. It's about scheduling, priority, redundancy, and proficiency. Without this main focus, there won't be any data to store.

It's also about providing a ground station as a service. Over the past 50 years, the KSAT staff have focused on customer satisfaction and have refined ground station operation to perfection. Human capital, technology and new developments are ensuring operation to customer expectations.

Regardless of your investments in space hardware being is a couple of million or less as typical for a SmallSat mission, or billions of dollars, you'll want to make sure that your data are sent safely to the ground and that your satellites are looked after in reliable ways.


11:16:17
KSAT

HANDLING THE SMALL AND BIG IN THE WORLD OF SATELLITES

Satellites fulfill many roles and come in many sizes. At the end of 2018, there were 1459 flying satellites, of which 520 were in geosynchronous orbit.

The operational lifetime of commercial satellites long has been 15 years. But more and more (mostly larger communications) satellites have exceed this lifetime limit; at the end of 2018, 247 satellites launched before 2002 were still in active use. Hence, 144 new satellites are launched each year just to maintain status quo. However, it doesn't stop there; According to Euroconsult, a global strategy consultancy in the space sector, 3343 satellites with a mass of more than 50 kg are planned to be built and launched in the 2019-2027. Most of these are Low Earth Orbit communications satellites, and a significant amount is Earth Observations satellites.

The SmallSat generation has dramatically increased the marked for satellite operation and control. In a typical value chain for satellites, operations are estimated to USD 13.7 BN with an Earnings before interest, taxes and amortization (EBITA) of 50-80% spread out among some 50 companies. For services, the figures are USD 251 BN with an EBITA of 5-30%, and more than 300 companies are involved. These figures suggest that the SmallSat generation has generated new marked opportunities. In 2018, KSAT turned around and created KSAT^{LITE} as a service provider in this market segment. The concept of better, faster, and cheaper resulted in a 97% capture rate, and the rate is increasing. The support volume (February 2019) is about 28% of the monthly per pass volume, i.e. more than 10,000 passes per month are dedicated small satellite users.

The rest, about 30,000 passes per month, entail services in what's now called the old market. It's the traditional, larger satellite systems supporting institutional, government and commercial users. The satellites are bigger and have different operational requirements. The key words are 100% data captured and real time delivery of data. At the European Maritime Safety Agency headquarters, information that is six minutes old is out of date. For KSAT oil-spill detection services, the similar figure is less than 15 minutes after a signal is captured by a satellite. Systems like these often have more redundancy, require higher proficiency, and are followed more closely with 24/7 operations. Between 2018 and 2020, the European Union alone will invest over EUR 12 BN in space activities. It will continue to expand and operate world-class space systems, Copernicus EGNOS and Galileo. With 33 satellites currently in orbit and over 30 planned in the next 10–15 years, at KSAT this is labeled big-space and constitutes an important customer segment.

The operations room at KSAT in Tromsø and the one in the Archipelago of Svalbard at 78°N latitude handle both small and big satellites. The KSAT team operates several antenna systems that serve both categories of satellite owners. Operation is 24/7, which is essential for some KSAT services, such as oil spill detection.

The Space sector is changing rapidly, and global competition is increasing with new entrants in the satellite market. Constellations of smaller satellites are challenging the large satellites now used for Earth Observation services. Space activities are increasingly commercial with a greater private sector involvement.

From a technology point of view, major shifts are underway. Digitalization, miniaturization, analysis using big data, and artificial intelligence (AI) have been introduced. The launcher market is changing, with reusable systems, and dedicated small satellite launch vehicles are entering it. In the 2007-2018, 66% of the total of 148 satellites serving the Earth Observation market were owned by governments and institutions; in 2019 to 2024 the similar figures 43% of 354 satellites. So the KSAT ship detection services will be delivered using all available Synthetic Aperture Radar (SAR) satellites. The user, who cares only about finding ships in its territory, can rapidly get answers to questions such as if ships have passed through its waters today, and how many ships are there now. In contrast, previous services took a snapshot once or twice a day and displayed ships in the region at a given points in time. The juxtaposition of information from small and big satellites has opened new opportunities.

Kongsberg Satellite Services and its staff have therefore geared up itself to be the preferred supplier of ground station of a services for both small satellite operators and representatives of big satellite operators. The operations crew of more than 200 satellite operators and space engineers are defining the next generation of ground stations on demand services.

Handling the small and big of the world of satellites now is a routine at KSAT.

> “ The operations crew of more than 200 satellite operators and space engineers are defining the next generation of ground stations on demand services.

JANUARY

ASNARO-2 Launch

KSAT Total: 34.000 passes a month

KSAT[LITE] become a separate business/ operations unit within SOP

University cooperation: PHd support, Gonzales

MicroSAR ground segment, processing Incubed supported by ESA

New contract in Kuwait, KSAT first in the Middle East

MARCH

GOES-S Launch

ICEYE Announces Agreement with KSAT for Maritime and Ice Monitoring SAR Data

Internal focus on Ethics and Compliance

CSR report 2017 finished

KSAT, Norut, and PPO.labs have entered a strategic partner-ship to establish operational services of spaceborne radar technology to provide ground motion monitoring service, KSAT GMS

KSAT and Addvalue join forces to enhance Spacecraft to Ground communication services

KSAT at Interspill 2018

FEBRUARY

Official inauguration party of the new office in Silicon Valley, USA

Smallsat Symposium, Mountain View, California

Norwegian minister of Trade and Industry, Torbjørn Røe Isaksen, visited KSAT ground station at Svalbard

Falcon heavy launch

APRIL

Sentinel-3B launch with support from Svalbard and Troll

HawkEye 360 Selects KSAT to Provide Ground Station Services for Pathfinder Mission

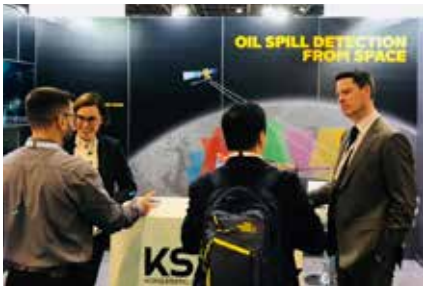
Reistaløpet – a cross country ski race, where KSAT attend in the race and also with a big supporter group

KSAT at the 34th Space Symposium for the 5th time, also this year inviting to the the popular “taste of Norway” event

KSAT presenting our daily oil spill monitoring of the Norwegian continental shelf at Space Port in Stavanger, Norway

EVI

JANU



ENTS 2018

JARY–JULY

MAY

SpaceX launch med Grace FO (x2) and Iridium Next (x5)

Spaceops 2018, Marseille – France

The annual Holmenkoll Relay

50 year since the first satellite supported from the Tromsø Telemetry Station, and Norway entered the Space age

KSAT Global is expanding, Evaluating Greenland and Cyprus

Several new initaitives; Wessel detection v 4.0, HEO support Space Norway, MicroSar ground segment development

Irridium choses KSAT Punta Arenas as their southern hemisphere location

JUNE

Our annual barbeque party, this year with a heated tent after years of freezing

JULY

The Norwegian Oil-on-Water (OPV) exercise is unique. Norway being one of the very few countries that allow the release of actual oil on water. KSAT important partner

Several new contracts for KSAT^{LITE}

Antennas for Oneweb are being installed at KSAT Svalbard Station

Delivering Optical data to EMSA

Installed a new antenna in South Africa

EVI

AUGUST

Finally Aeolus launch!

Svalbard Spacerun with the finish line between our antennas

Rakettnatt – KSAT is a proud sponsor of this music festival in the heart of Tromsø city

KSAT is an official partner of Arctic Race of Norway, the beautiful bicycle race above the Arctic Circle

Hiber and KSAT announce new cubesat ground station infrastructure

At SmallSat, Logan in Utah. With our KSAT^{LITE} team following the evolving SmallSat ecosystem

SEPTEMBER

NASA's IceSat-2 launch. Our Svalbard ground station was the first ground station to receive signal and give new commands

SSTL satellites NovaSAR and India S1/SSTL S1-4 launched with PSLV-C42

KSAT annual Invitational 2018 Golf tournament

Live at KSAT – concert in our own antenna park!

Site survey at Nuuk, Greenland for a new KSAT site

KSAT Svalbard participated with two teams on the NRK telethon run

KSAT a part of the Norway Pavilion at IAC Bremen

Proud sponsor of the Nordic Perl Workshop and Mojoconf 2018

KSAT at ESA Industry Space days 2018

Space Expo India in Bangalore, KSAT attendance in the panel as well

At the annual Career fair for students at the Arctic University of Norway in Tromsø

Annual gathering, internal seminar @ Sommarøya

68 LEOPS in 2018, and still counting

OCTOBER

GOSAT-2 launchet from Tanegashima Space Center

Supported the launch of Khalifasat from MBRSC, Mohammed Bin Rashid Space Centre

29.10 the Troll Airfield is opened for the season, this means the job starts for this seasons maintenance & Engineering at the Troll Station

KSAT at Satellite Innovation conference, Mountain View

SAOCOM-1A was launched at 02:21 UTC by a Falcon 9 rocket from Vanderberg in California

KSAT signs MoU with Tesat on optical downlink service

Japanese Meteors Showers satellites to use KSAT^{LITE} Ground Network

50 years since the first Norwegian instrument in Space, celebrated with a ESRO 1A seminar hosted by KSAT

Participated at the carrier fair for students in Narvik

36.500 satellite contacts per month

Aeolus operations initiated, new antenna installation at Troll started

Breast canser awareness month so all our antennas in Tromsø is “dressed in pink”

KSAT inaugurates the new office building where EES will stay

NOVEMBER

Metop-C launch with support from our Antarctica and Svalbard ground stations

Kenneth Olafsson, our Sales Director in Asia present at the Asia Pacific Regional Space Agency Forum in Singapore, bringing our popular polar bear too

Tyvak 0086 launch supported by our KSAT^{LITE} antennas

KSAT partners with Nanoracks for the NASA LEO commercialization program

DECEMBER

Axelspace selects SKY Perfect JSAT and KSAT Ground Network Service for GRUS

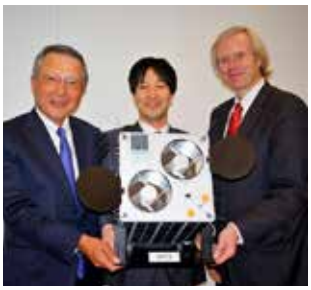
Axelspace launch

KSAT suopport the historic SSO-A smallsat Express launch with a multi mission launch for our KSAT^{LITE}

KSAT Sales Director, Arild Jose Jensen speaking at Newspace Europe

The new US ambassador in Norway, Kenneth J. Braithwaite visit KSAT, Tromsø

ENTS 2018 AUGUST–DECEMBER



ANNUAL REPORT

ABOUT KSAT

Kongsberg Satellite Services AS (KSAT) supplies services for the operation of and acquisition of data from satellites, as well as for the applications of satellite-based information in global services.

KSAT has three wholly-owned subsidiaries, KSAT Global, CSGSI (Canadian Satellite Ground Station Inuvik), a Canadian company, and CSPGP (Chilean Satellite Ground Station Punta Arenas), a Chilean company. In addition, KSAT has activities at fixed locations in several countries. KSAT Global owns the infrastructure of KSAT subsidiaries at external locations.

KSAT is a world leader in its markets and has two business segments. Station services (SOP) comprise about 88% of turnover. The Energy, Environment, and Security (EES) Division accounts for the remainder. A new business segment, KSAT Government Program, has been established. It comprises operation of ground stations for communication with satellites, reception and processing of Earth Observation data in near real-time, and services associated with operative use of these data. The company focuses especially on marine applications of satellite based Earth Observation information.

The company headquarters is in Tromsø. KSAT operates 21 ground stations in various countries. Operations are controlled at the Tromsø Network Operations Center (TNOC), which is affiliated with company headquarters. KSAT has local offices in Svalbard, Oslo, Stockholm and California

During the year, the KSAT staff expanded by 24 to 190 at the end of 2018.

KSAT is owned 50/50 by Space Norway AS, a State-owned enterprise (SOE) of the Ministry of Trade, Industries, and Fisheries, and by Kongsberg Defence & Aerospace AS (KDA), part of the Kongsberg Group ASA.

STATUS

Compared to the 2017 accounts, the company has had strong growth in both turnover and result. Company income was MNOK844, an increase of about 12%. Order income was MNOK743. As anticipated, positive development continued in 2018. KSAT is the only company supplying ground station services from both Polar regions. Its Pole-to-Pole concept is optimized for effective satellite control and data downloading. KSAT services have been augmented with mid-latitude stations and a dedicated KSAT^{LITE} ground segment to fulfill the needs of new client groups.

The positive development is due in part to a dedicated client focus and an assertive attitude. The Energy, Environment and Security (EES) division achieved good results with a margin of 10%. KSAT routinely supplies operative, near real-time marine services and products as relevant for shipping, iceberg detection, and oil spill detection. Monitoring of illegal fisheries is a developing sector.

KSAT has long-term contracts with most leading space agencies as well as with key commercial actors. This stable client base ensures long-term operational capability. Consequently, the company can focus on continued growth, innovative improvements, and establishing new business segments.

KSAT is the world's largest supplier of services for controlling and acquiring data from polar-orbit satellites. Antenna capacity went up in 2018, and by the end of the year, the company operated 170 antennas and conducted 37,000 satellite contacts per month. KSAT supplies ground station services to the ESA/EU funded Galileo and Copernicus satellite systems. Some 93% of company turnover is outside Norway. Initiatives in the small satellite market have achieved good results, but it's a sector with small margins. The company is working to reduce operating costs to improve margins.

Activities focus on expansion of the ground network with more ground stations, and the establishment of global, multi-mission, near real-time monitoring. KSAT's international leading position builds on its long operating experience, technical expertise, and cost-effective infrastructure, combined with unique geographic locations. Moreover, the company draws upon 20 years of experience in developing and supplying satellite-based services focused on maritime applications.

Work continues to improve the accessibility of data. KSAT now is the world's only company with internal processing capabilities for all operational radar satellites. KSAT seeks innovative solutions for establishing new services, focusing on the High North in general and on environmental monitoring in particular. KSAT cooperates with UnoSat, the United Nations satellite agency, and contributes to the use of satellite data in disaster and emergency aid activities.

FINANCIAL RISK

An appreciable part of KSAT's revenue is in US Dollars (USD) and Euro (EUR), which incurs exposure to exchange risk in ordinary business activities. Safeguarding contracted turnover through hedging is used through contractual forward exchange agreements.

KSAT has little interest risk, because the greater part of company debt is non-interest bearing, as well as because it has a corporate account arrangement that incurs only net interest for the company. This gives the company ample liquidity and freedom of action.

The company evaluates the credit rating of each new client and takes precautions if necessary. The credit risk is small for KSAT's largest clients. Clients and suppliers are evaluated to ensure that all activities comply with relevant rules for business ethics, anti-corruption, and general social responsibility.

OPERATIONAL RISK

KSAT is a service provider that depends on operational satellites and other technological equipment to download and process data from satellites. Failed launches, orbiting satellite malfunctions, or faults in KSAT antennas and other facilities may affect development. Operational income from TrollSat in Antarctica is particularly vulnerable to equipment breakdown and the like.

BUSINESS RISK

Business risk is associated with changes in the primary market, escalating competition, and completive access to data from various satellites.

CONTINUED OPERATION

Continued operation is a presupposition for the Annual Accounts.

EVALUATION OF CASH FLOW

In the cash flow analysis, cash and cash equivalents are entered as the net of bank deposits and short-term debt to credit institutions in that these accounts are included in the corporate accounting system.

In 2018, the net cash flow from operational activities was 302 MNOK, compared to 272 MNOK in 2017. The net change in cash and cash equivalents went down by 13 MNOK in 2018.

Cash and cash equivalents together amounted to 58 MNOK as at 31 December 2017. Company cash flow and liquidity are deemed to be good, and the net capital ratio is 68%. Working capital is 2 MNOK.

RESEARCH AND DEVELOPMENT

About 2.5% of annual turnover is invested in internally and externally-financed development of services. The relevant costs are expensed as incurred.

FUTURE DEVELOPMENT

Demand for KSAT services is buoyant, and development is positive in the small satellite market (New Space) served by KSAT^{LITE}, and in the EES Division's market. Growth in all markets is expected henceforward. KSAT aims to secure existing and new data sources as well as to expand access to its own and other ground stations.

The Board anticipates continued company growth. Focus will be on globalized services and maritime monitoring in the High North. Competition is increasing from large European companies, from other companies that operate ground stations, as well as from low-cost satellite systems.

WORKING ENVIRONMENT

In 2018, the Working Environment Committee (AMU) held two meetings, of which company health services attended one. The AMU management is new and it has several new members. AMU has day work and shift work representatives from both Tromsø and Svalbard. It has 3 representatives from management and 3 from the employees.

In 2018, there were major enlargements of the Tromsø station, upon which AMU focused. There were no reported working environment cases. Throughout the year, the company health services and the safety delegate cooperated closely.

AMU and KSAT deem the company's working environment to be safe, good, and ensured. There were no incidents of staff personal injuries in 2018. Sick leave amounted to 3.7%, of it 1.16% short-term and 2.5% long-term.

SOCIAL RESPONSIBILITY

KSAT emphasizes that values and ethical guidelines shall be integral in its activities. The staff and collaborating partners shall have high ethical standards and live up to prevailing rules. KSAT focuses on anti-corruption work and is concerned with its social responsibility. The company will unfailingly live up to prevailing laws and regulations wherever it has activities.

The company contributes to society with its acquisition of satellite-based Earth Observation data, which is essential in meteorology, resource monitoring, and climate research in general.

GENDER EQUALITY

Company management comprises six men and one woman. The Board and its deputies consist of seven men and three women. The employees have two representatives on the Board. The Board and management are aware of the social expectations and measures for furthering gender equality within the company and on the Board. The company wishes to be seen as an attractive workplace and aims for arrangements that increase the proportion of women in technical positions as well as in management. In 2018, 21% of KSAT employees were women.

MEASURES AGAINST DISCRIMINATION

The KSAT personnel policy aims to ensure equal possibilities and rights and to hinder discrimination on the basis of ethnic background, national origin, sexual preference, skin color, language, religion, beliefs, age, or gender.

The headquarters offices are arranged to support disabled people.

EXTERNAL ENVIRONMENT

Mainland KSAT activities have no impact on the external environment. The company now is working on alternative green solutions for electric power production in the Svalbard archipelago and at Troll in Antarctica. These are the principal places where company environmental impact may be reduced.

STATEMENT OF ANNUAL ACCOUNTS

The Board believes that the Annual Accounts satisfactorily describe the company position at the end of the year. The company financial position and liquidity are sound, and the Board assesses company equity to be satisfactory.

The Board is not aware of any situations not included in the Annual Accounts that may affect appraisal of company position.

ALLOCATION OF PROFIT IN THE PARENT COMPANY

In 2018, the company profit after tax was 224,415 TNOK (Thousand Norwegian Kroner)

The Board recommends the following allocation of profit for KSAT AS

	TNOK
Dividend to owners	110,000
To other equity	114,415
Total allocation of profit	224,415

Tromsø,
31 December 2018
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14 February 2019

THE BOARD OF DIRECTORS OF KONGSBERG SATELLITE SERVICES AS

Erik Lie
Chairperson

Asbjørn Birkeland
Deputy chairperson

Even Aas
Member

Jostein Rønneberg
Member

Vidar Tyldum
Member

Gøril Bjørkmo
Member

Rolf Skatteboe
President

NUMBERS AND FIGURES

INCOME STATEMENT 1 JANUARY–31 DECEMBER

	1000 NOK	1000 NOK	Exch. rate 8,69 1000 USD	Exch. rate 8,69 1000 USD
	2018	**2017**	**2018**	**2017**
Operating revenue	844 001	752 606	97 140	86 621
Raw materials and consumables	94 042	121 968	10 824	14 038
Personnel expenses	180 492	154 358	20 774	17 766
Other operating expenses	213 253	159 252	24 544	18 329
Depreciations	87 176	75 907	10 033	8 736
Operating profit	**269 037**	**241 121**	**30 965**	**27 752**
Net financial items	(3 590)	122	(413)	14
Earnings before tax	265 447	241 243	30 552	27 766
Tax expense	46 928	43 798	5 401	5 041
Net profit for the year	**218 519**	**197 445**	**25 150**	**22 725**

STATEMENT OF CASH FLOW

	1000 NOK	1000 NOK	Exch. rate 8,69 1000 USD	Exch. rate 8,69 1000 USD
	2018	**2017**	**2018**	**2017**
Earnings before tax	265 702	241 123	30 581	27 752
Taxes paid	(45 716)	(32 981)	(5 262)	(3 796)
Profit / loss sale of fixed assets	0	(2 183)	0	(251)
Depreciation and amortisation	87 176	75 907	10 033	8 736
Change in accounts payable/receivables	(35 890)	(28 542)	(4 131)	(3 285)
Change in pension plan liabilities	668	(618)	77	(71)
Change in other accrual items	30 381	19 772	3 497	2 276
Net cash flow from operations	**302 321**	**272 478**	**34 796**	**31 361**
Sale of tangible fixed assets	733	6 373	84	733
Payments for aquisition of fixed assets	(206 540)	(194 956)	(23 772)	(22 438)
Loan to Group Company	0	26 000	0	2 992
Paid dividend	(110 000)	(90 000)	(12 660)	(10 359)
Cash and cash equivalents at 1 January	71 598	51 704	8 241	5 951
Cash and cash equivalents at 31 December	**58 112**	**71 599**	**6 688**	**8 241**

BALANCE SHEET AT 31 DECEMBER

	1000 NOK	1000 NOK	Exch. rate 8,69 1000 USD	Exch. rate 8,69 1000 USD
	2018	**2017**	**2018**	**2017**
Assets				
Deferred tax asset	20 042	14 961	2 307	1 722
Operating Assets	760 590	642 239	87 540	73 918
Financial Fixed assets	39 622	38 425	4 560	4 423
Total fixed assets	**820 254**	**695 625**	**94 407**	**80 063**
Receivables	276 426	200 787	31 815	23 110
Bank deposits and cash equivalents	58 112	71 599	6 688	8 241
Total current assets	**334 538**	**272 386**	**38 504**	**31 350**
Total assets	**1 154 792**	**968 011**	**132 910**	**111 413**

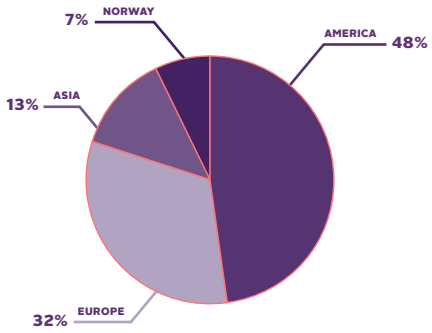
BALANCE SHEET AT 31 DECEMBER

	1000 NOK	1000 NOK	Exch. rate 8,69 1000 USD	Exch. rate 8,69 1000 USD
	2018	**2017**	**2018**	**2017**
Equity and Liabilities				
Share capital	2 000	2 000	230	230
Other equity	785 058	674 930	90 356	77 681
Total equity	**787 057**	**676 930**	**90586**	**77911**
Other long-term liabilities	31 813	26 137	3 662	3 008
Other short term liabilities	335 922	264 944	38 663	30 494
Total liablities	**367 735**	**291 081**	**42 324**	**33 502**
Total equity and liablities	**1 154 792**	**968 011**	**132 910**	**111 413**

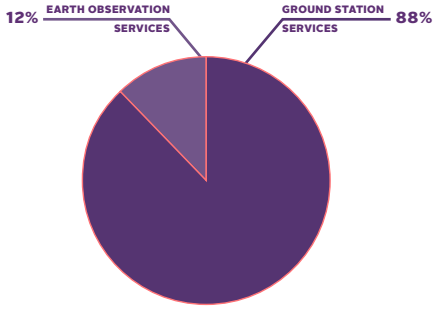
SHAREHOLDERS 31 DECEMBER 2018

Kongsberg Defence and Aerospace AS	50 %
Space Norway AS	50 %
	100 %

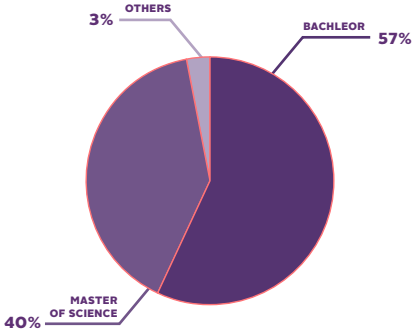
REVENUE GEOGRAPHICAL DISTRIBUTION 2018



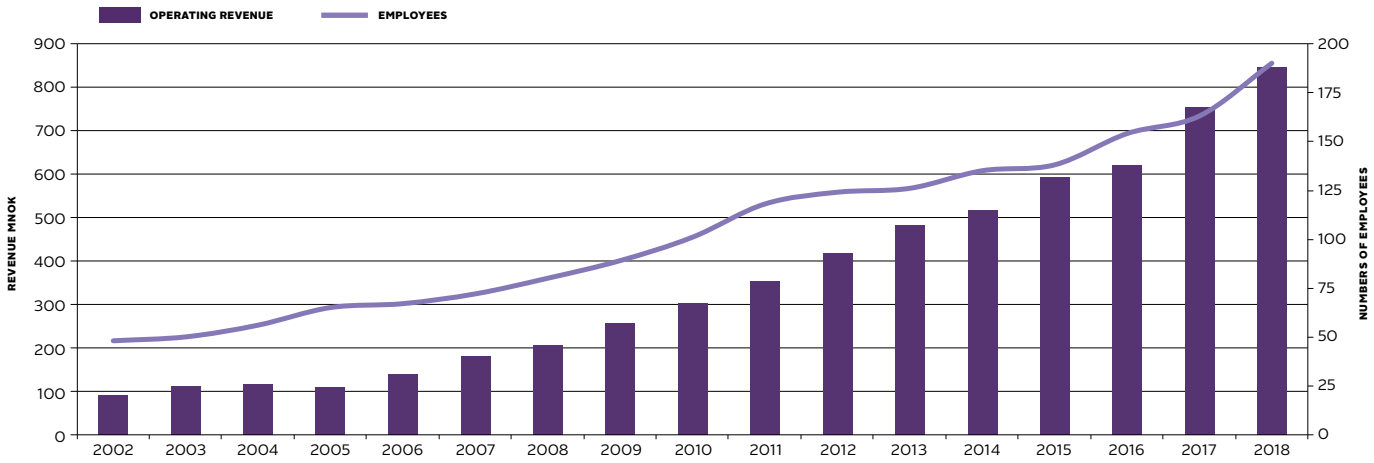
REVENUE DISTRIBUTION BUSINESS AREAS 2018



EMPLOYEES BY LEVEL OF EDUCATION 2018



KEY FIGURES



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