Euroconsult

Space Economy Report 2021

An extract

An outlook of the key trends in the global space market.

A Euroconsult Report

December 2021
8th Edition

ABOUT THIS MARKET INTELLIGENCE REPORT

Scope

Space Economy Report gives a 360° view of the trends and issues across the vibrant space economy. From upstream to downstream, it provides snapshot of market dynamics, competition evolutions and key drivers for all key segments of the space economy and its applications.

Extensive figures & analysis for the coming decade

All Euroconsult market intelligence has, at its core, data derived from over 30 years of tracking all levels of the satellite/space value chain. To this we add dozens of dedicated industry interviews each year, along with the continual refinement of our data models, and the collection and interpretation of company press releases and financial filings. Our consultants have decades of experience interpreting and analyzing our proprietary databases of the broader value chain.

When you purchase market intelligence from Euroconsult, you receive thousands of data points and the expert interpretation of what this means for specific verticals and sectors of the satellite value chain, including forecasts based on years of data and highly refined models.

Included in this product

- up-to-date KPIs and graphs
- All segments of the value chain reviewed and analyzed

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Strategic outlook of the commercial & government satellite value chain. Space market revenues and data from the past five years and projections for the next ten years.

Factsheets with Key highlights and key metrics for each of the five satellite segments

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All content online, with interactive analytics and graphs.

	Dedicated presentation session by Euroconsult expert.

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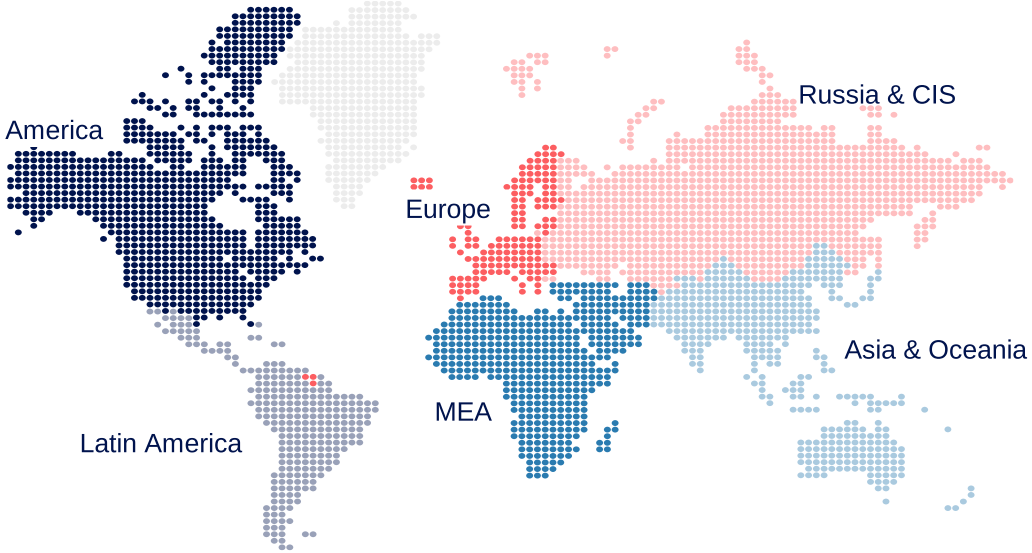
TABLE OF CONTENTS

Three main market segmentations are key for the report: by type of client, by region and by satellite application. They are detailed below.

Different types of clients

- **Commercial**: private sector companies and consumers (BtoB, BtoC)
- **Civil government**: civilian government organizations (e.g., space agencies), research and education organizations (e.g., universities)
- **Defense**: government-run military organizations

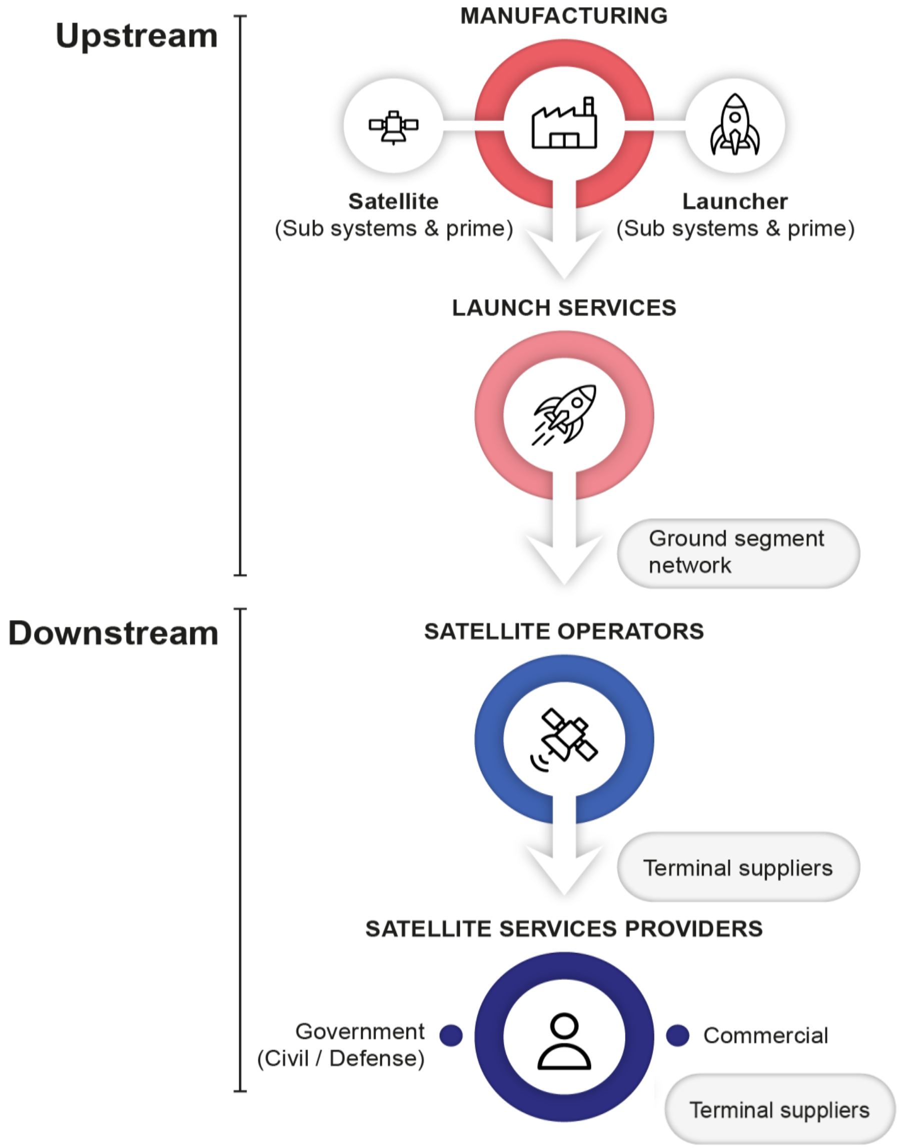
Regional scope



Space applications considered

Application	Definition
Satcom	Satellites for commercial and government operators for broadband communications and broadcasting, narrowband communications (IoT and M2M) and data collection from ground, aerial and atmospheric sensors (e.g., AIS and ADS-B).
Earth Observation	Satellites for electro-optical and radar observation of the Earth, as well as for meteorology, both for operational and Earth-science research purposes. Also includes GNSS radio occultation (GPS-RO) and IMINT satellites for defense agencies
Navigation	Satellites for government agencies for PNT signal for autonomous geospatial positioning
Security	Satellites for space situational awareness (SSA), missile early warning, near-Earth object monitoring, electrical intelligence (ELINT), RF monitoring, and space weather
Technology	Technology-development satellites (mainly from government and academic players, but also commercial) built to test new technologies or platform/payload components; some technology-development satellites may serve other applications on a non-operational basis. Also called IOD/IOV
Science & Exploration	Space probes for astrophysics and astronomy, planetary exploration, heliophysics, and solar-terrestrial interactions among others
Manned spaceflight	Manned space missions (Earth orbital or deep space)
Space Logistics	Four applications included: in-orbit servicing (IOS; i.e., satellites designed to repair, refurbish, refuel or take-over station-keeping of an aging satellite to extend its life); active debris removal (ADR); last mile logistics (i.e., propulsive cubesat dispensers) and in-orbit manufacturing (IOM)
Space tourism	Human space flight for recreational purposes

Note: launch is taken into account as an activity within the space value chain, not as an application. See next page.



The Space Value Chain explained

The space industry is an infrastructure supplier to government agencies and commercial companies. It operates upstream of a value chain that flows downstream to the end-users of satellite capabilities.

The satellite value chain allows the delivery of space-based services reliant on satellite technology and includes a wide diversity of stakeholders, active at five levels of the chain:

1. **Government agencies** which fund space technology R&D for both their own uses and dual-uses, with public efforts emerging from a constantly increasing number of countries;
2. **The space industry (upstream)** that includes a limited number of players who design and manufacture space systems and their launch vehicles;
3. **The ground segment network (upstream)** designs and deliver hard and software to deploy ground stations across the globe.
4. **The satellite operators (downstream)** who own the satellite systems and market their capacities to the service providers (downstream) who deliver communications, navigation and geographic information services to the final users by integrating the satellite signal into packaged solutions;
5. **The service providers (downstream),** whether governmental (civil/military) or commercial, requiring solutions tailored to their needs, for communications, navigation or geographic information services, augmented by value added services. The user terminal supply are included

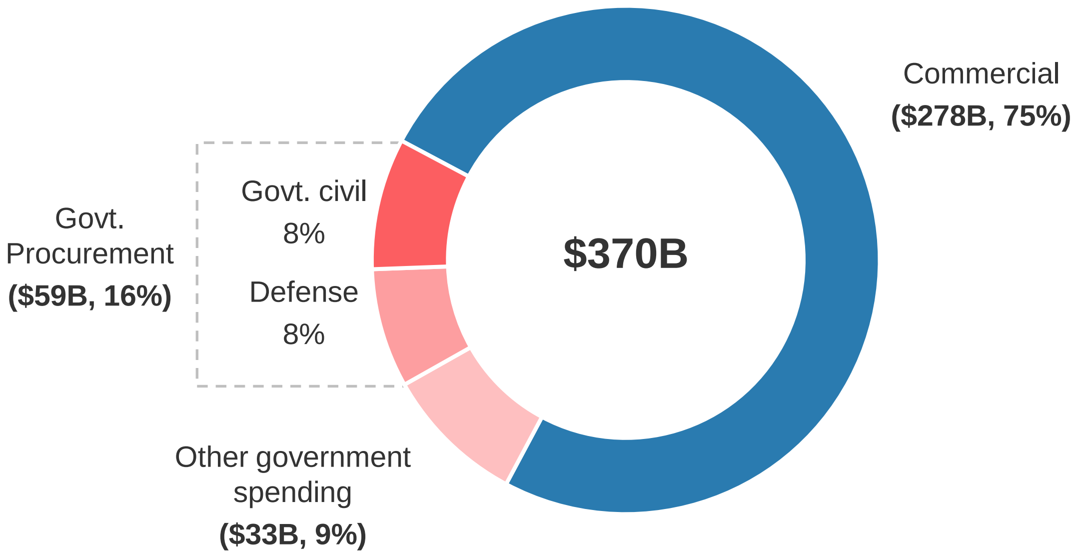
THE SPACE ECONOMY

The global space economy is estimated at a **total value of $370 billion** in 2021. it consists of

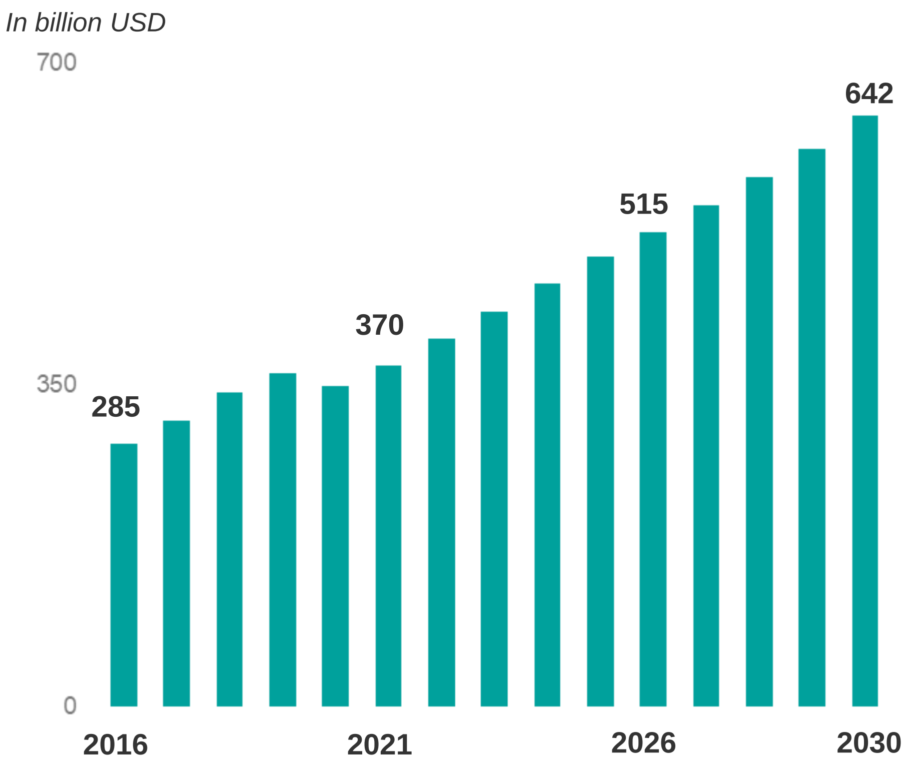
- The **space market ($337B in 2021)** which includes **commercial space revenues and government procurement** for their space activities contracted to the private sector, and
- **Other spending from government organizations ($33B)** to conduct their space activities (internal costs and R&D)

The space economy is expected to **grow by 74% by 2030 to reach $642B (6.3% CAGR)** renewing its strong growth pattern following a 4% decrease in 2020 under the effect of the covid crisis impact on commercial space services

Space economy by client type 2021



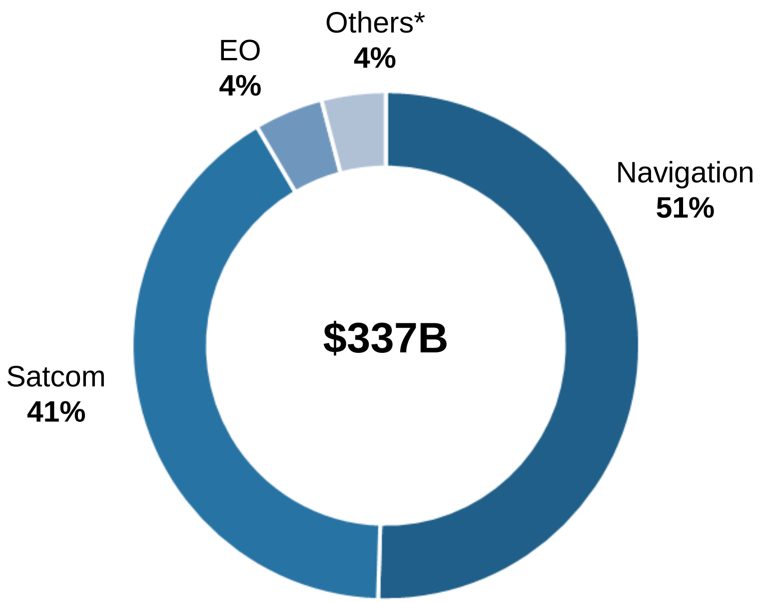
Evolution of the space economy 2016-2030



THE SPACE MARKET IN 2021

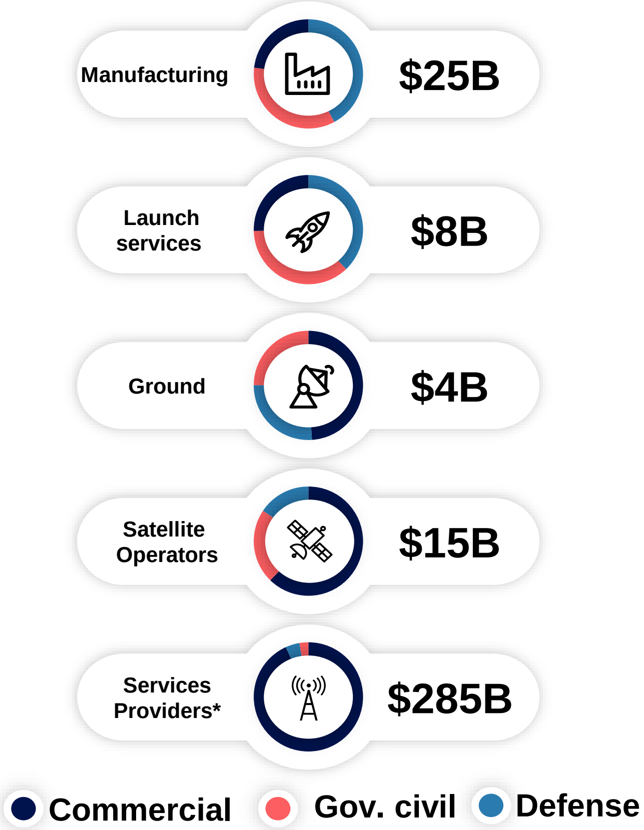
The global space market is valued at $337B in 2021 up 6% v. 2020, i.e a market value comparable to 2019 prior to covid crisis which impacted satellite service revenues in 2020. **The largest revenue drivers remain satellite navigation and communications** which account for 50% and 41% of the total market value respectively, driven by B2C applications. In comparison, EO still accounts for a marginal 5% of the total value but with a much higher proportion upstream (see next page). Satnav has surpassed satcom, growing from about 37% of the total revenues in 2016 to over 50% in 2021, largely due to services enabled by GNSS services and their related devices.

Space market by application



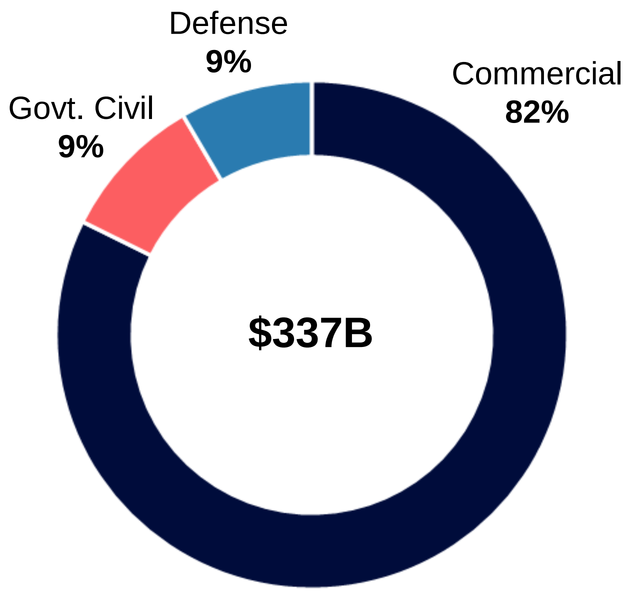
* Includes other commercial activities such as SSA, space logistics and technology demo missions.

Space market value chain



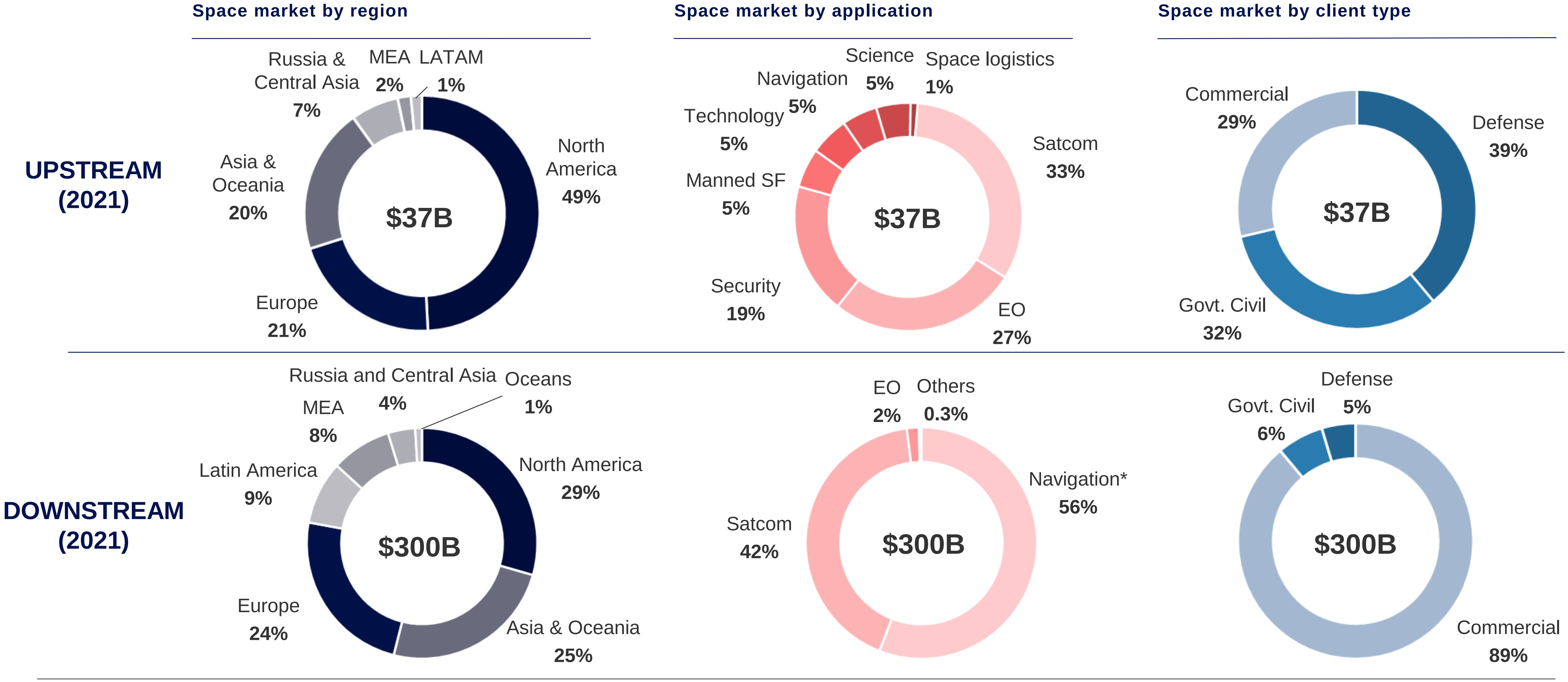
*Including end user terminals

Space market by client type



THE SPACE MARKET IN 2021

Upstream and downstream market show very distinct structures and drivers as highlighted below. **Upstream revenues** from activities in manufacturing, launch services and ground segment totaled $37B in 2021 (11% of total market value). **Revenues downstream,** which include operations and satellite services, are estimated at $300B in 2021 (89% of the total market).



A boutique consulting firm

Euroconsult Group is the **leading global consulting group** specializing in the **space sector** and **satellite enabled verticals**. It is composed of two distinct, yet complementary, companies: Euroconsult and SATConsult. The group is privately owned and operates in strict independence and neutrality. Overall, the group has over 600 customers in over 50 countries. Completely agnostic of governments, manufacturers, and other stakeholders, it is able to provide truly independent consulting, market intelligence, and operational services of the highest quality.

Consulting

Euroconsult's core business, since its creation, has been to provide independent assessment and decision-making assistance to the institutional, industrial and financial organizations involved in the space and satellite sector. Consulting services include independent assessments of business plans and government programs and policies, market analysis and forecasts, financial valuations, risk assessment, due diligence, feasibility studies and operations management services. The majority of our clients are returning customers, relying on our expertise to grow their business and network.

Market Intelligence

Over the past 30 years, Euroconsult has maintained an unparalleled expertise in assessing trends in the satellite industry. We have developed propriety databases and forecast models that are systematically applied and are central to the publication of thematic market intelligence reports. The consistency of the approach is an essential quality trusted by leading space organizations who have become regular users over the years. Our market intelligence is used each year in more than 50 countries by government agencies and private stakeholders. Our customers range from world leading entities to start-up companies.

Events

Euroconsult has established an outstanding reputation for creating and organizing summits and executive training programs. Drawing on our expert knowledge and industry connections, we organize summits that bring together our international executive client base. The format always includes a top-level conference featuring senior executive speakers and delegates who meet to benchmark, exchange viewpoints on issues that the industry is facing and strike major deals. Summit venues are chosen to create a personal setting which lends itself to the networking and business meeting which are an integral part of each event.

Training

Euroconsult's customized training programs provide interdisciplinary knowledge transfer to government, private sector and not-for-profit organizations wishing to enhance their expertise in the space and satellite application sectors. Leveraging a robust global network of experts that collaborate to deliver technical, intellectual, and managerial transformation for its clients, Euroconsult offers an extensive choice of training courses designed by leading industry experts. We strive to build our clients' capabilities by equipping them with the knowledge and know-how needed to successfully navigate change and strengthen their internal potential.

Catalog Market Intelligence 2022

GOVERNMENT SPACE


Government Space Programs


Prospects for Space Exploration

SATELLITE COMMUNICATIONS


Satellite Connectivity and Video Market


Prospects for Maritime Satellite Communications


FSS Operators: Benchmarks and Performance Review


Optical Communications Market


High Throughput Satellites


Prospects for In-Flight connectivity

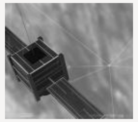

FSS Capacity Pricing Trends


Universal Broadband Access

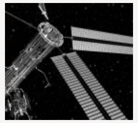

Prospects for L-Band, IOT & M2M Markets

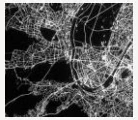
SPACE INDUSTRY


Satellites to be Built and Launched


Prospects for the Small Satellite Market


The Space Economy Report

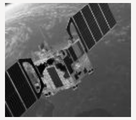

Space Logistic Markets


Space Market Monitoring


Ground Segment Market Prospects

EARTH OBSERVATION


Earth Observation Data & Services Market


Earth Observation Satellite Systems Market

UPCOMING EUROCONSULT EVENTS

WORLD SATELLITE BUSINESS WEEK

SUMMIT FOR SATELLITE FINANCING

Paris & Online – Sept. 12-16, 2022
Global satellite communications

- 1,000+ executive participants
- 60+ senior executive speakers
- 45+ countries

SUMMIT ON EARTH OBSERVATION BUSINESS

Paris & Online – Sept. 12-16, 2022
Global satellite imagery & geospatial solutions

- 250+ executives & senior government officials
- 40+ senior executive speakers
- 45+ countries

AI x SPACE

The 1st event dedicated to AI applied to space

Montreal – Q2 2022
Artificial intelligence applied to space

- 200+ key stakeholders
- 20+ executive speakers

Perspectives Spatiales

Paris – Q3 2022
French & European space industries

- 200+ executives and senior government officials
- 20+ executive speakers

LATSAT

Mexico City – 2022
Connectivity & satcom in LATAM

- 250+ executive participants
- 40+ senior executive speakers
- 20+ countries

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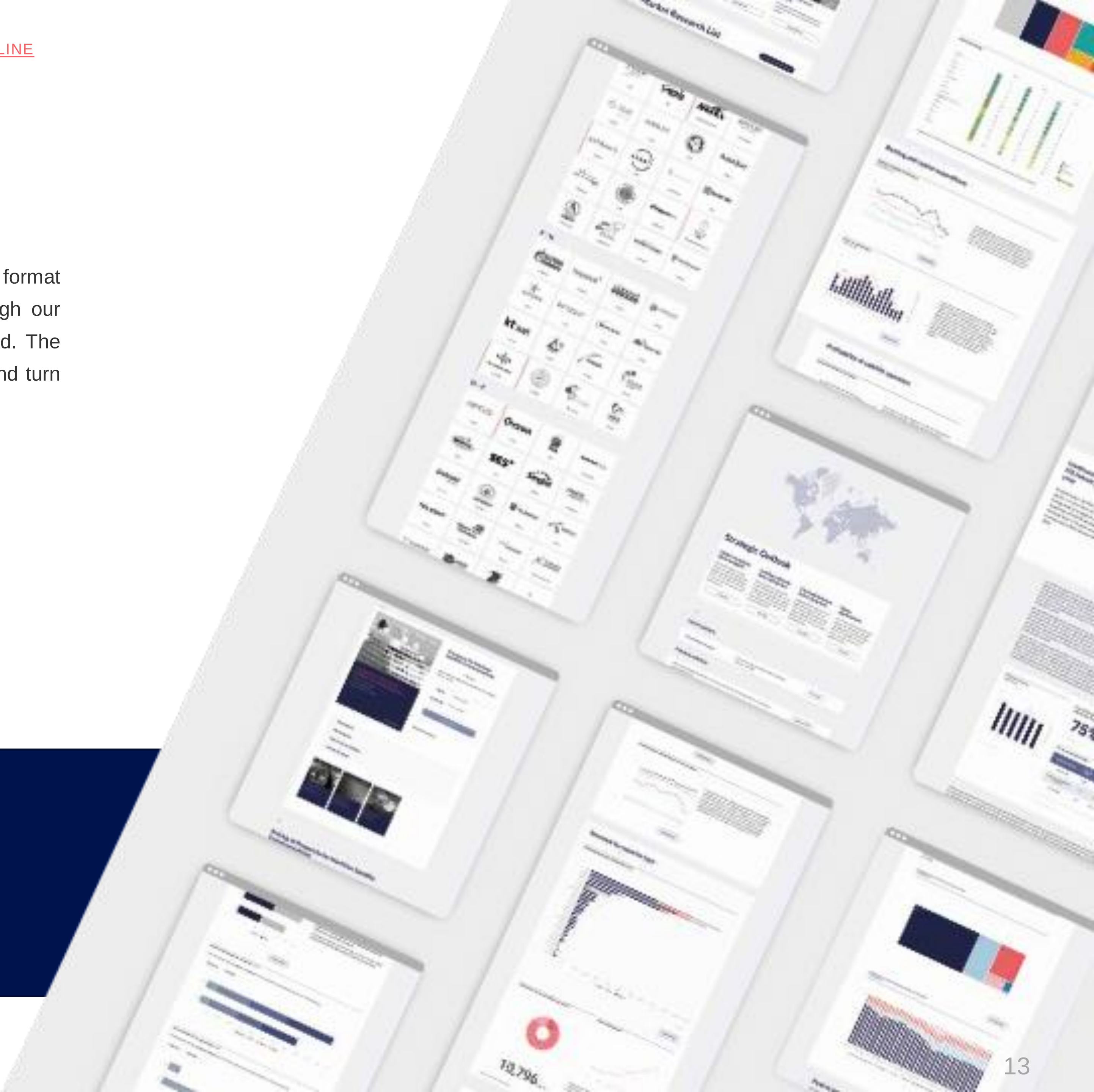

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