

A global supply and demand
analysis of government and
commercial satellites up to 500kg

Prospects for the Small Satellite Market

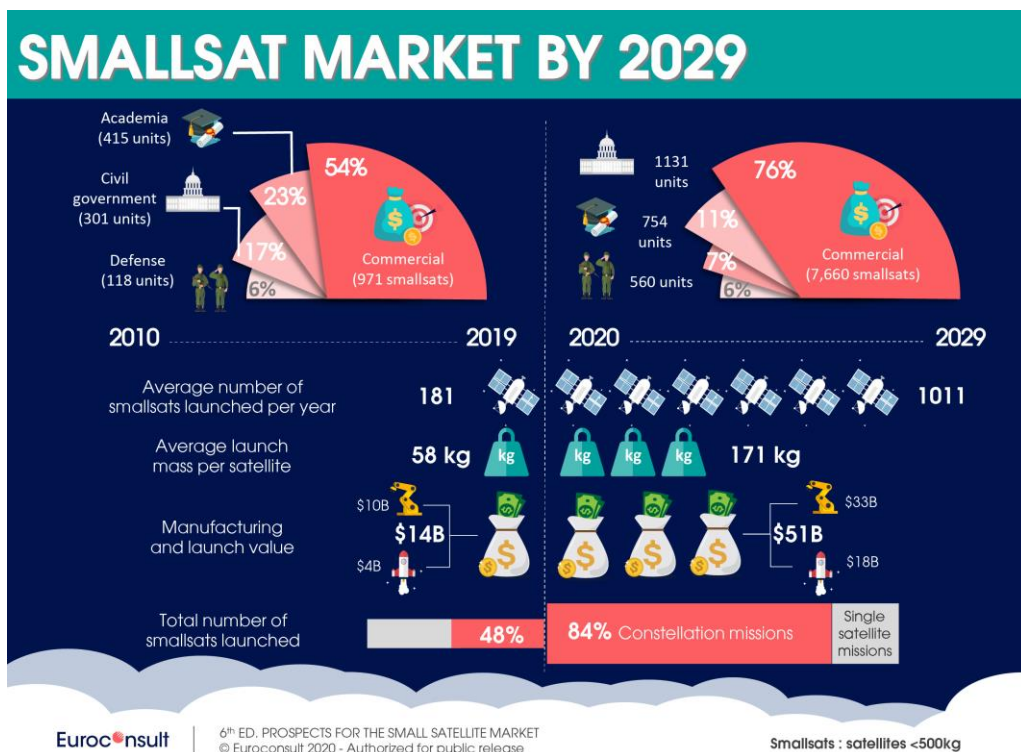
Forecasts to 2029

2020 edition

euroconsult-ec.com



PANDEMIC WON'T STOP SMALLSAT MARKET TAKEOFF TO AVERAGE 1,000 SMALLSATS TO BE LAUNCHED PER YEAR OVER 2020S



In the 6th edition of “Prospects for the Small Satellite Market,” Euroconsult forecasts that two mega-constellations will account for half of the smallsats to be launched between 2020 and 2029, yet only account for one fifth of the total smallsat market value due to economies of scale, mass manufacturing and batch launches. The report also addresses the impact of COVID-19 on the small satellite industry and provides updated analysis of the ongoing uncertainties related to the pandemic, smallsat constellations and the OneWeb bankruptcy, despite its recent acquisition.

The 2020s are predicted to be the decade of small satellites with an annual average of 1,000 smallsats to be launched. By comparison, 2019 had the highest number of smallsats to date, with 385 smallsats launched. These spacecraft generated \$2.8 billion of market value in 2019, of which 70 percent for manufacturing and 30 percent for launch. From 2020 to 2029, the smallsat market value is projected to reach \$51 billion, of which \$33 billion for manufacturing and \$18 billion for launch. This is more than four times the market size of the previous decade.

Vertical integration is increasing in the smallsat industry. Significant future market shares are now captive of a region, of a country or of an integrator and/or launch provider, challenging both commercial satellite integrators and launch providers which see more of their target customers now competing with their own services.

The Asian market, 72% of which is government-driven, will account for 1,600 smallsats over the next decade, competing with US companies to provide connectivity services to foreign countries. The regional market is largely driven by, but not limited to China.

In the coming decade, smallsat market growth will be dominated by communication satellites with nearly 5,700 units forecasted for launch. In contrast, Earth Observation satellites will decrease in market share but will nonetheless triple in terms of units, with 1,520 anticipated. Nonetheless, high levels of uncertainty remain as the smallsat market is, by definition, very volatile. The failure (or market entry) of a single constellation may represent hundreds of satellites of variation.



ABOUT PROSPECTS FOR THE SMALL SATELLITE MARKET

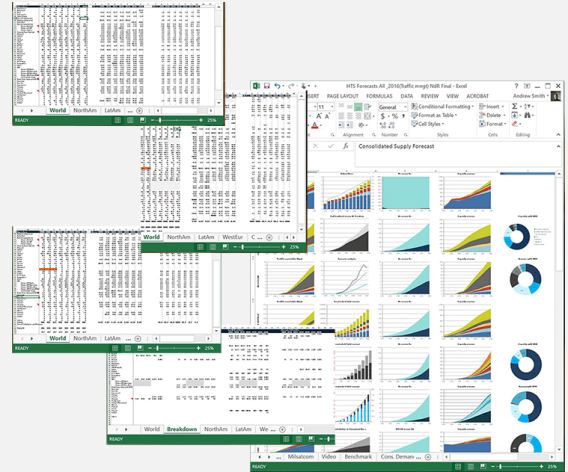
A GLOBAL SUPPLY AND DEMAND ANALYSIS OF GOVERNMENT AND COMMERCIAL SATELLITES UP TO 500KG

“Prospects for the Small Satellite Market,” provides an in-depth analysis of market drivers, supply and demand and provides information on seven different smallsat applications, six types of orbits and four mass categories with a major review of telecom mega-constellations. Space Logistics is discussed as a new application category featuring In-Orbit Servicing, In-Orbit Manufacturing, Last Mile Logistics, and Space Debris Removal. Also new to this year’s edition of the report is a comprehensive review of Chinese satellite constellations and operators, and a review of the Space Development Agency’s National Space Defense Architecture layers.

EXTENSIVE FIGURES & ANALYSIS FOR THE COMING DECADE

All Euroconsult research programs have, at their 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 in light of the broader value chain.

The research from Euroconsult contains thousands of data points and 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.



THE REPORT INCLUDES:

- ✓ Dedicated COVID-19 impact content & Chapter 11
- ✓ Focus on vertical integration & market shares
- ✓ Detailed analysis of smallsat demand (mass category, application, operator region & status)
- ✓ Profiles of main commercial smallsat integrators
- ✓ Past market shares by integrator & launcher (2010-2019)
- ✓ Propulsion, rationale, challenges & case study

SMALLSAT MARKET DRIVERS:

- ✓ Industry trends
- ✓ Constellation rational & challenges
- ✓ Sustainability of demand
- ✓ Policy
- ✓ Technology
- ✓ Financial aspects

FORECAST FOR NEXT DECADE BY:

- ✓ Application
- ✓ Orbit
- ✓ Operator type
- ✓ Mass category
- ✓ Region of operator
- ✓ Integrator & launch provider
- ✓ Type of integrator
- ✓ Type of launcher
- ✓ ...

A MUST READ FOR:

- ✓ Smallsat manufacturers
- ✓ Smallsat launchers
- ✓ Investors
- ✓ Space agencies



TABLE OF CONTENTS

INTRODUCTION

- Executive Summary
- Scope and Definitions
- Methodology
- Lessons Learned
- Methodology: Focus on Constellations
- Results of Constellations Status Assessment
- Results of Constellations Maturity Assessment
- Acronyms

01/ STRATEGIC ISSUES AND FORECAST FOR THE SMALLSAT INDUSTRY

- 2019 for the Small Satellite Industry – **NEW**
- Major Changes Since Last Edition – **NEW**
- Trends in Small satellite Manufacturing & Launch Services
- Consolidated Figures for Three Metrics Over Two Decades – **NEW**
- Smallsat Market Drivers // Impact of COVID-19 – **NEW**
- Smallsat Market Drivers // Impact of OneWeb Chapter 11 – **NEW**
- Smallsat Market Drivers // Streamlining Along the Value Chain
- Smallsat Market Drivers // Small Satellites as a Service
- Smallsat Market Drivers // Constellations
- Smallsat Market Drivers // Constellations – Rationale
- Smallsat Market Drivers // Constellations – Challenges
- Smallsat Market Drivers // Investment Trends
- Smallsat Market Drivers // Mergers & Acquisitions
- Smallsat Market Drivers // Sustainability of Demand
- Smallsat Market Drivers // U.S. Government Policy

- Smallsat Market Drivers // Government Involvement (Outside of the U.S.)
- Smallsat Market Drivers // Export Control & Licensing Regulations in the U.S.
- Smallsat Market Drivers // A Growing Value Chain
- Smallsat Market Drivers // Vertical Integration
- Smallsat Market Drivers // Performance Improvement – (Focus on EO)
- Smallsat Market Drivers // Performance Improvement – (Focus on Satcom)
- HTS System Cost Base of Capacity Benchmark – **NEW**
- Smallsat Market Drivers // Design Evolution & Value Distribution
- Hardware Focus: Most Critical Advances in Subsystems
- Software Focus

02/ SMALLSAT DEMAND

- What's Next for Smallsats in the Next Decade – **NEW**
- Two Decades of Smallsat Demand – **NEW**
- By Mass Category
- By Operator Region
- By Operator Type
- By Application – **NEW**
- Telecom Constellations Drivers
- Focus on Telecom Constellations
- Main Communication Constellations – **NEW**
- Focus on the Top 2 Mega-Constellations: Starlink and Kuiper
- Earth Observation Constellations Drivers
- Focus on Main Earth Observation Constellations
- Information Constellations Drivers
- Focus on Main Information Constellations
- Focus on Main Chinese Constellations – **NEW**
- Focus on Main Military Constellations - **NEW**



TABLE OF CONTENTS - CONTINUED

03/ Smallsat Supply - Manufacturing

- Smallsat Manufacturing Trends – **NEW**
- Two Decades of Smallsat Manufacturing – **NEW**
- Main Commercial Smallsat Integrators Around the World
- Distribution of Supply
- Manufacturing Market Value by Region
- Manufacturing Market Value by Integrator
- Manufacturing Market Value by Type of Integrator
- Manufacturing Market Value by Contract Status – **NEW**
- Regional Distribution of Manufacturing Supply and Demand
- Electric Propulsion and Smallsats: a Paradigm Change
- Electric Propulsion and Smallsats: Value Proposition
- Value Comparison Case Study: Electric Versus No Propulsion – **NEW**
- Reliability Remains an Issue for Small Satellites
- Not limited to LEO/SSO: the Rise of GEO Smallsats
- Satellite Platform Diversification
- Cubesat Platform Providers
- Main Commercial Smallsat Integrators – **NEW**

04/ Smallsat Supply - Launch services

- Smallsat Launch Trends – **NEW**
- Two Decades of Smallsat Launch Services – **NEW**
- Launch Rates & Orbits – **NEW**
- Smallsat Launch Supply by Type of Launcher
- Diversity of Launch Supply – **NEW**
- Performance of Main Launch Service
- Providers in the Past Decade
- Main Launch Service Providers in the Next Decade
- Regional Distribution of Launch Supply & Demand
- Launch Services Market Value
- Launch Market Value by Launch Provider
- Specific Prices for Selected Launchers: SSO focus – **NEW**
- Pricing Pressure and Dispersion – **NEW**
- Upcoming Smallsat-Dedicated Launchers
- Value Proposition and Limitations of Micro-Launchers
- Launch Brokering Market Trends
- Profiles of Launch Brokers – **NEW**
- Last Mile Logistics

ADDITIONAL INFORMATION ON SMALLSAT RESEARCH:

- ✓ Scope & definition
- ✓ Methodology
- ✓ Executive summary
- ✓ Major changes to previous editions
- ✓ 2019 in numbers for smallsat industry

EUROCONSULT LAUNCHES ITS DIGITAL PLATFORM*

Feed your business intelligence tool & turn information into business insight:

- ✓ Interactive infographics
- ✓ Intuitive use
- ✓ Clear data visualization
- ✓ Quick data search & filtering
- ✓ Customized export
- ✓ Quarterly rolling updates

*Available end of July 2020 with our flagship Government Space Program research

Please complete this form and return by e-mail to reports@euroconsult-ec.com. If you have any questions about ordering, would like to enquire about specific corporate licenses or would like to order for multiple locations and/or legal entities, please contact reports@euroconsult-ec.com or call +1 (514) 303 0304. **All prices are in Euros. All orders must be prepaid** (if not possible, please contact us). When applicable VAT taxes will be added.

Product		Price	Total
Prospects for the Small Satellite Market 2020 (PDF & Excel)	1	€ 5,000	
Additional license	Qty.	€ 500	
Enterprise license		€12,500	
VAT if applicable 20% (French companies and EU customers with no VAT Number)			
Product Total in (€)			

3 Accounting Dept. E-mail: _____

4 **Invoicing Address** (Please use capital letters)

First name _____

Last name _____

Company name _____

Occupation _____

Address _____

Zip Code _____ City _____

State _____ Country _____

Phone _____ Fax _____

E-mail _____

5 **Delivery Address** (If different from invoicing address)

First name _____

Last name _____

Company name _____

Occupation _____

Address _____

Zip Code _____ City _____

State _____ Country _____

Phone _____ Fax _____

E-mail _____

2 **Payment Information**

Company VAT n° (required companies part of EU) _____

Credit Card
Please check credit limit with bank prior to submitting form.

VISA MasterCard AMEX

Cardholder Name (as it appears on card) _____

Cardholder Number _____

Expiration Date (month/year) _____ Cryptogram (last 3 digits on back of card; 4 digits on the front AMEX) _____

Cardholder's Signature _____

Bank Transfer
(All bank charges are to be paid by the sender)

to EUROCONSULT, please NOTE IMPERATIVELY:
Swift-BIC code: CM CI FR PP
IBAN: FR76 3006 6109 1500 0200 6760 132
Account n° 00020067601
CIC Nanterre Enterprises, 105 Rue des 3 Fontanot, 92022 Nanterre Cedex, France.

Cheque or Money Order Enclosed
Payable to Euroconsult:
86 Blvd. Sebastopol, 75003 Paris, France

Please complete and return the order form & copyright agreement by e-mail to reports@euroconsult-ec.com
All report users must sign a copy of the copyright agreement.

Please read this license agreement carefully.
By using the research report files, you are agreeing
to adhere by the terms of this license.

SINGLE USER LICENSE

- a) This product is licensed only for a team working together on a project, working on the same site in the same company. The person signing this agreement is responsible for the use of the research files. Euroconsult must be informed of all users of the research files before use. The information may not be shared with other company sites or other work teams in the same or other companies in any form, neither photocopied nor reproduced, including for internal use.
- b) No part or extract, in any format whatsoever, must be transmitted to any other organization, including cooperative entities and subsidiaries. All licenses purchased at the additional license price are for internal use only by the organization ordering (same company name, same location as indicated on original order form). Euroconsult must be informed of the users of the additional licenses purchased.
- c) All data or information extracted from the research files for use in other documents must rightfully use the copyright reference: *Euroconsult, name of report, year*. Before any other use of the information contained in the research files, prior written consent by Euroconsult is required.
- d) This Agreement shall in all respects be governed by the laws of the Republic of France. The user agrees that the proper jurisdiction and forum for the resolution of any claim arising under this license shall be at Euroconsult's sole option.

Research Report User

First name _____

Last name _____

Company _____

Occupation _____

E-mail _____

Date _____

SIGNATURE: _____

Research Report User (For additional user)

First name _____

Last name _____

Company _____

Occupation _____

E-mail _____

Date _____

SIGNATURE: _____