

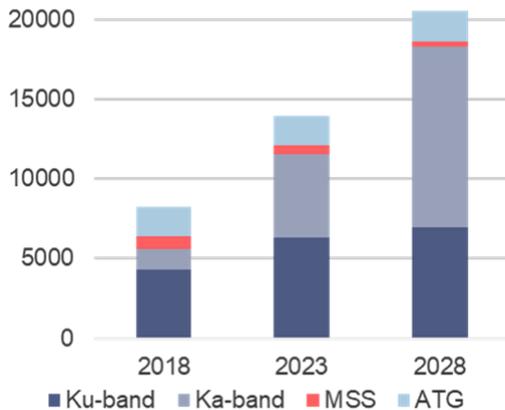


Sector dynamics, analysis and forecasts addressing the IFEC market for commercial airlines and business aviation

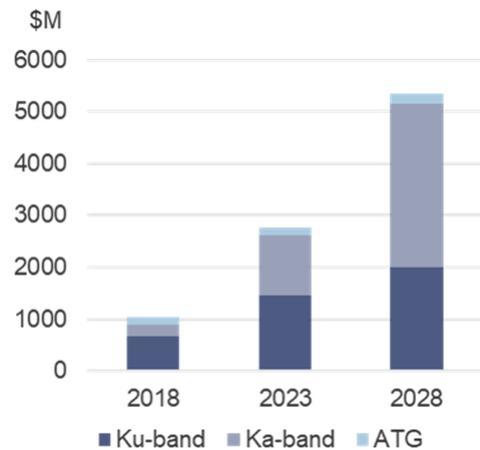
## Prospects for In-Flight Entertainment & Connectivity

Forecasts to 2028

## Number of connected commercial aircraft by type



## IFC service providers' revenues



A trusted resource for manufacturers, service providers, airlines and investors, the report quantifies how many airlines will add cabin connectivity to their fleets and which regions will see the most demand. It also includes a discussion of the various business models that airlines are considering and how flexibility in service options will become a key decisive factor. It addresses the growing demand for real-time data on aircraft systems, operations and maintenance, and the impact of the "Smart Plane" concept on the amount of satellite bandwidth airlines will need.

Euroconsult's analysis over the period from December 2018 through December 2028 points to increasing competition among service providers, which it predicts will result in decreasing bandwidth cost. However, this is expected to be offset by the dramatic growth in data consumption both by passengers and by the aircraft themselves.

The report includes both quantitative and qualitative analysis of this dynamic market. Among many interesting findings it predicts a high probability of consolidation among in-flight communications service providers over the next five years.

"Demand continues to grow for connectivity in the aero industry," said Xavier Lancel, Euroconsult Senior Consultant and editor of the report. "Our research on IFEC is an essential tool for companies that need to understand the intricacies of this market, how it is changing, and where the biggest opportunities lie. With less than 20 percent of the world's airlines providing internet connectivity to their passengers at the end of 2018, and more 'Smart Plane' connectivity coming, there is lots of room for expansion. The report is an important resource for organizations that will benefit by tapping into this market."

# ABOUT PROSPECTS FOR IN-FLIGHT ENTERTAINMENT AND CONNECTIVITY



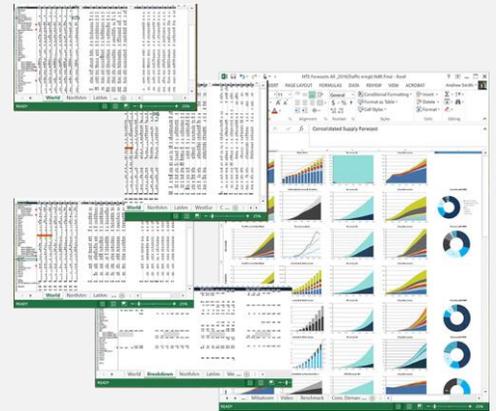
With data on the period 2019-2028 for forecasts, [\*Prospects for In-flight Entertainment and connectivity\*](#) is a comprehensive resource for assessment of future trends. It quantifies the changing landscape in the context of market drivers and their impact.

## EXTENSIVE FIGURES & ANALYSIS FOR THE COMING DECADE

All Euroconsult reports 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.

When you purchase research 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.

This report contains an extensive Excel budget database, with thousands of data points, covering annual space budgets from 1990 to 2028.



### THE REPORT INCLUDES:

- ✓ Overview and key metrics of the IFEC systems and services, with focus on: technologies, services and smart plane concept
- ✓ Value chain of the In-Flight Connectivity ecosystem with company profiles: network operators, service provider, equipment manufacturers
- ✓ Two time periods of reference: 2009-2018 for historical trends and 2019-2028 for forecasts

### A MUST READ FOR:

- ✓ Network operators
- ✓ Satellite & Equipment Manufacturers
- ✓ Satellite Operators
- ✓ Airlines and Aircraft Manufacturers
- ✓ Investors & Financial Institutions

## EXTENSIVE DATABASE

COVERING NUMBER OF CONNECTED AIRCRAFT PER REGION AND PER TECHNOLOGY AS WELL AS SERVICE PROVIDERS REVENUES AND SATELLITE OPERATORS REVENUES

### KEY TRENDS, DRIVERS & FORECASTS FOR IFEC MARKET

*Prospects for In-flight entertainment and connectivity* is a reference for industry players & leaders around the globe. The report provides critical information for business and strategic planning in IFEC business, including:

- ✓ Strategic Outlook containing global trends and forecasts by region and **technology**
- ✓ Detailed analysis for commercial and business aviation
- ✓ Value chain analysis



# TABLE OF CONTENTS

## 1\ INTRODUCTION

- Acronyms
- Executive summary
- Euroconsult In-Flight Connectivity research program
- Research scope and Methodology
- Review of our forecast compared to previous edition

## 2\ STRATEGIC ISSUES AND FORECASTS

- The In-Flight Connectivity market at Year-End 2018
- Recent developments in the IFC market
- Service pricing trends
- Intensifying competition among service providers
- New network infrastructure and additional capacity
- From satellite capacity supply to IFC
- Connectivity makes the aircraft smarter
- Market forecasts to 2028 – Commercial aviation
- Market forecasts to 2028 – Business Aviation
- Market forecasts to 2028 – Total aviation
- Market forecasts – Commercial aviation – Key figures
- Market forecasts – Business Aviation – Key figures
- Market forecasts to 2028 – VSAT capacity leased

- Commercial aviation market forecasts to 2028
- Business Aviation market forecasts to 2028

## 3\ IFC SERVICES AND SMART PLANE CONCEPT

### TECHNOLOGIES USED FOR IN-FLIGHT CONNECTIVITY

- In-Flight Connectivity – A fast growing market
- Frequency band overview
- Air-To-Ground – Technology roadmap
- ATG in the U.S.A. – Focus on the next generation
- European Aviation Network – A hybrid solution
- Satellite connectivity
- Benchmarking of IFC systems
- Defining the Quality of Experience
- Simulating the aircraft bandwidth profile
- Capacity provisioning



# TABLE OF CONTENTS - CONTINUED

## SERVICES OFFERED TO PASSENGERS

- In-Flight Entertainment content distribution
- In-Flight Entertainment market landscape
- IFE market players' positioning and evolution of IFE
- IFE and new content distribution methods
- New types of In-Flight Entertainment options
- In-Flight Entertainment for airline brand recognition
- IFE as a source of ancillary revenue

## THE SMART PLANE CONCEPT

- The Smart Plane concept
- The electronic Flight Bag
- Weather monitoring and forecasting
- Aircraft health monitoring
- Flight tracking
- Flight operations optimization
- Use of Internet of Things and Big Data

## 4\ IFC ECOSYSTEM AND VALUE CHAIN

### NETWORK OPERATORS

- Network operators for different applications
- Inmarsat – A multi-network operator
- Iridium – The leading MSS operator in Business Aviation
- Increase in FSS satellite operators' investments
- HTS for supporting new-generation IFC services
- Low and Medium Earth Orbits constellations
- Different business models of satellite operators
- Air-To-Ground: Transition to next generation network
- New entrants and major innovations



# TABLE OF CONTENTS - CONTINUED

## SERVICE PROVIDERS

- Main market players' positioning
- Market share by service provider
- Service providers backlog
- Service providers market share per region
- Connected Commercial aircraft per type
- Connected aircraft by service provider and type
- Company profile – Gogo
- Company profile – Global Eagle
- Company profile – Panasonic Avionics
- Company profile – Inmarsat
- Company profile – ViaSat
- Company profile – SITAONAIR
- Company profile – Thales
- Intensification of competition
- Evolution of ARPA and service provider profitability
- A Significant amount of capacity to come online
- STC – A must-have to install a connectivity solution
- Service providers' business models

## EQUIPMENT MANUFACTURERS

- In-Flight Connectivity equipment ecosystem
- Antenna value chain
- Antenna market
- Antenna manufacturers market overview
- Electronically Steerable Antenna

- Modems
- Radomes
- Interoperability – Closed versus open systems

## 5\ ANALYSIS & PROSPECTS OF THE COMMERCIAL AIRLINE MARKET

- Facts and figures – Year-End 2018
- The value chain
- Addressable market
- Addressable market - Commercial airline segmentation
- Passenger traffic growth
- Profitability of the airline industry
- Increased penetration of In-Flight Connectivity
- Connected Commercial airlines by region – Ye 2018
- Airlines' business models for IFC – Paid models
- Airlines' business models for IFC – Free models
- Connected Commercial aircraft – 2018-2028
- Commercial Aviation market forecasts – 2018-2028



# TABLE OF CONTENTS - CONTINUED

## **6\ ANALYSIS & PROSPECTS OF THE BUSINESS AVIATION MARKET**

- Facts and figures – Year-End2018
- The value chain
- Addressable market
- Impact of pre-owned Bizjets on addressable market
- Addressable market – Business Aviation segmentation
- Business jet manufacturers' market shares
- Increased penetration of In-Flight Connectivity
- In-Flight Connectivity pricing
- Market share by service provider
- Connected Business aircraft – 2018-2028
- Business Aviation market forecasts – 2018-2028