2021

Aerospace and Defense Market Intelligence

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For more than 30 years Teal Group has been providing market intelligence to global aerospace companies and government agencies. We remain committed to delivering high-value insights that inform our client's strategic understanding and contribute to key organizational objectives. We are confident that by working together we can help our clients make optimal decisions.

Our team of experienced analysts has earned an unrivaled reputation for researching and publishing timely, accurate information on various aerospace and defense markets and sub-markets. In addition to gathering, classifying and analyzing data from a wide range of sources, Teal Group provides up-to-date production and funding forecasts, while adding critical observations and insights.

Whether you are interested in aircraft, defense electronics, aircraft engines, missiles, space programs, individual companies, the competitive environment, global customers, unmanned aerial systems, civil aviation and other aerospace segments, Teal provides a comprehensive understanding of what is happening and what will happen.

This catalog includes descriptions of all the Teal Group publications and services. Each is designed to help you track your competition, monitor developments in your sector, and identify and quantify new business opportunities.

If our publications don't address your specific questions, we are happy to explore consultative approaches that will provide you the special insights you require. Our consulting engagements have earned a reputation for excellence all over the world.

Please let us know how we can help you and your organization.

Sincerely,

President













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WORLD MILITARY & CIVIL AIRCRAFT BRIEFING

SOAR TO SUCCESS IN THE AIRCRAFT INDUSTRY

uthored by Richard Aboulafia, Teal Group's World Military & Civil Aircraft Briefing is a monthly-updated information service consisting of reports that track the status and outlook of the world's aircraft programs and markets. Each program report includes information describing the aircraft, designating the agency responsible for development or purchase of the plane, an explanation of the various subsystems and the companies involved in supplying the components (primes as well as subcontractors), an overview giving a brief history and current status of the program, and, finally, a 10-year funding forecast (US programs only) and 10-year production forecast (all programs) is included, along with a "Teal Group Evaluation" explaining our rationale for the forecasts. The market overview reports contain a compilation of the production forecasts for a given market, along with resulting market shares for aircraft programs and manufacturers. This information is given in both units and current dollars.

The program reports are organized in sections by mission (e.g., fighter/attack or transports) and within sections, alphabetically by manufacturer/model. The market overviews are contained together in their own section. Most of the Western world's aircraft programs are covered in World Military & Civil Aircraft Briefing. These include planes under development, in production or out of production, but still in significant service.





Online	\$2,795
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"This contract means at least \$15 billion – and probably much more in the long run – in work for Boeing, for their partner Saab, and for their suppliers. It also means an all-new aircraft will enter production, which hasn't happened in the military market for quite some time." — Richard Aboulafia

WORLD MISSILES & UAVS BRIEFING

MEET THE MISSILE, UAV AND SMART MUNITIONS MARKETS HEAD-ON

uthored by **Steven Zaloga**, Teal Group's **World Missiles & UAVs Briefing** is a monthly-updated information service consisting of reports that track the status and outlook of more than 150 individual programs. Most of the free-world's missile programs are covered in World Missiles & UAVs Briefing. These include systems under development, in production or out of production, but still in significant service.

Each program report includes information describing the system, designating the agency responsible for development or purchase of the missile, an explanation of the various subsystems of the missile and the companies involved in supplying the components (primes as well as subcontractors), an overview giving a brief history and current status of the program, and, finally, a 10-year funding forecast (US programs only) and 10-year production forecast (all programs) is included, along with a "Teal Group Evaluation" explaining our rationale for the forecasts.

The market overview reports contain a compilation of the production forecasts for a given market, along with resulting market shares for missile programs and manufactures. This information is given in both units and current dollars. The program reports are organized in sections by mission (e.g., air-to-air) and within sections, alphabetically by program name. The market overviews are contained together in their own section.



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"The Army vaguely talks about having a requirement for (small UAVs), but when you go and look in the budget, where are they funding this? Are they

putting any real money there? The answer is no." — Steven Zaloga

WORLD SPACE SYSTEMS BRIEFING

EXPLORE NEW MARKET OPPORTUNITIES ON THE HIGH FRONTIER

uthored by Marco Caceres, Teal Group's World Space Systems Briefing is a monthly-updated information service consisting of reports that track the status and outlook of the world's space systems, spaceports and markets. Each program report includes information describing the space system, designating the agency responsible for development or operation of the system, an explanation of the various subsystems and the companies involved in supplying the components (primes as well as subcontractors), an overview giving a brief history and current status of the program, and, finally, a 10-year launch forecast is included, along with a "Teal Group Evaluation" of the program.

The spaceport reports are structured similarly. The reports are organized in sections by type (e.g., Launch Vehicles, Payloads) and within sections, alphabetically by system or facility. The World Space Systems Briefing covers a large portion of the world's space systems and launch facilities. The focus of the publication, however, is on active programs or those that are in their early planning or development stages.



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WORLDWIDE MISSION MODEL ONLINE

SPREADSHEETS

Teal Group's **Worldwide Mission Model** is a daily-updated spreadsheet containing information on space payloads proposed to be built and launched during the next 10 years. The current model contains a total of more than 15,000 payloads from 2021 through 2030. The information in the model is broken out into more than a dozen data fields, including: Launch Year and Date I Mission Order I Status I Payload I Bus I Mass I Type 1, 2 and 3 I Prime Contractor I Customer I Country

I Orbit I Launch Vehicle and Variant I Launch Site. The Worldwide Mission Model Online is available as a stand-alone product or as part of a package which includes the World Space Systems Briefing.

Online	\$2,195
WMM & WSSB subscription	\$2,995

MILITARY ELECTRONICS BRIEFING

SET YOUR SIGHTS ON THE GROWING "AN" MARKET

uthored by **Dr. David Rockwell**, Teal Group's *Military Electronics Briefing* is a monthly updated service covering more than 350 of the top US military electronics programs that are researched and analyzed—primarily "AN" designated systems, but other airborne, sea-based, vehicular, stand-alone systems too. All types of equipment are covered: electronic warfare, C3I, radar, sonar, electro-optics, avionics, fire control systems, computers, and many others. The reports are strategically grouped by program status to make finding opportunities peculiar to your business much easier. Sections include New Developments, Production Systems, and Upgrade & Support.

To be included in this service, an electronics program must be either under development or in production for a US requirement, or in the active US military inventory and garnering significant upgrade or support funding. Each program has an individual report that reflects the most recent activities. Reports are added to the service when new programs emerge; conversely, a program's report is removed when it is cancelled, production is completed or aftermarket funding (upgrade and support) dries up.









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SPACENEWS

"In the last five years they have not been competitive. When it comes to price, the Atlas 5 is nowhere close to being competitive against SpaceX's Falcon 9.

Falcon 9 beats everyone on price, including the Russians." — Marco Caceres

Bloomberg

"There's a lot of improvement that could have been done and should have been done 15 years ago. The Air Force postponed a lot of things for the F-22." — David Rockwell

INTERNATIONAL DEFENSE BRIEFING

EXPLORE NEW MARKET OPPORTUNITIES ON THE HIGH FRONTIER

uthored by **Steven Zaloga**, Teal Group's *International Defense Briefing* is a monthly-updated information service consisting of reports that track the status and outlook of the international defense budgets, arms imports and weapons markets for over 130 countries

Each country report includes information describing the basic details of the country's government, major factors affecting its defense posture, an inventory of its major weapons holdings, details of defense budget and expenditures including Foreign Military Sales (FMS) from the United States, and a survey of its major weapons acquisition programs. A defense budget and major equipment forecast is provided along with a "Teal Group Analysis" explaining our rationale for the forecasts.

The world overview report contains a compilation of the budget forecasts. The program reports are organized in sections by region (e.g., Africa) and within sections, alphabetically by country name. Most of the countries of the world are covered in International Defense Briefing except for the United States which is covered in extensive detail in other Teal Group products.



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BUSINESS AIRCRAFT BRIEFING



This monthly updated service takes a comprehensive view of the global market for business jets and engines. First, we look at the market and where it is headed. Second is our assessment of the manufacturers and new product development prospects. Third is our forecast, including assumptions and segment details. Finally, there's our quantitative market forecast, which covers all turbofan and turboprop

business aircraft and the associated engines.

Online \$1,895

WORLD POWER SYSTEMS BRIEFING

AERO GAS TURBINES

uthored by William Storey, Teal Group's World Power Systems Briefing (Aero) is a monthly updated information service consisting of reports that track the status and outlook of the aero gas turbine industry's expanding role in worldwide programs through comprehensive overviews and forecasts. More than 200 individual programs are covered.

The market overviews contain insights on the turbofan, turboprop, turbojet, turbo shaft and aero APU markets, with detailed annual summaries and 10-year market forecasts. The company overviews offer an exclusive look at the major players in the aero turbine business from a unique company-wide perspective. The program reports allow you to study exhaustive background information, competitive analyses, specifications, program breakdowns and 10-year production forecasts on a full range of turbine programs.

Also included with this service are appendices that present detailed specifications, military contract information and a convenient turbine/aircraft cross-referencing guide.



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 \$2,095

 CD (quarterly)
 \$2,095

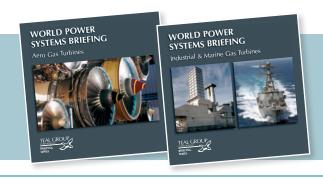
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WORLD POWER SYSTEMS BRIEFING

INDUSTRIAL & MARINE GAS TURBINES

uthored by William Storey, Teal Group's World Power Systems Briefing – Industrial & Marine Gas Turbines covers the dynamic industrial and marine gas turbine marketplace. The Market Overviews take an inside, in-depth look at industrial gas turbines, marine gas turbines, and small turbine programs around the world. The Company Overviews gain a new perspective on the leading companies with their industrial and marine turbine programs. The Program Briefings review each program inside and out – from background and history to forecasts and applications. Each briefing includes a program summary, production forecast, applications, technical specifications, current developments and orders, and a listing of customers and competitors – plus up-to-date contact information.

Market overviews are provided to examine the overall market broken down into pertinent segments and provide 10-year forecasts of production requirements. Each program report provides background information, competitive analysis, specifications and forecasts of annual production requirements over the next decade for each engine family. Also included are appendices that document recent production contracts organized by both region and engine family. In addition, an appendix with a consolidated listing of production forecasts is provided.





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To take advantage of the full range of information on programs impacting both the aero gas turbine industry and the industrial and marine turbine market, you need the wider view that the two-volume World Power Systems Briefing provides. And by subscribing to both briefings, in one format (print, CD or online) you'll receive substantial savings.

DEFENSE & AEROSPACE COMPANIES BRIEFING

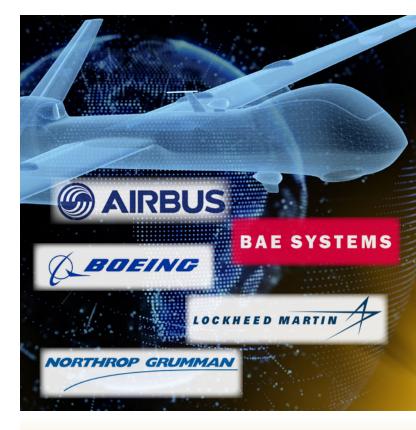
BE A MASTER IN THE AEROSPACE MARKET

uthored by **Philip Finnegan**, Teal Group's **Defense & Aerospace Companies Briefing** is an information service reporting on the activities of approximately 40 selected companies and federally funded research and development centers.

Inclusion in the Defense & Aerospace Companies Briefing is primarily determined by either the size or diversity of a company's revenue base. The idea is to cover not only the largest companies, but also those that are involved in a wide-range of major markets and sub-markets.

The Defense & Aerospace Companies Briefing focuses on US and major foreign companies, including major aerospace and defense prime contractors and subcontractors. Specific sectors covered include aircraft, space, ground systems, engines, missiles, avionics, shipbuilding, training, defense electronics, munitions and defense electronics. Each company's strategy and performance are analyzed by strengths, weaknesses, opportunities and threats outlined. Separate sections outline acquisitions, contracts, exports and the corporate structure.

Also in the Defense & Aerospace Companies Briefing are appendices that give summary information on prime contract awards, including totals by contract type by company, individual awards by company/ division, a summary listing of all awards announced by the Pentagon and a summary ranking of all awards by company.



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DefenseNews "This is a high-priority program (Boeing's MQ-25). They're really intent on strengthening their position in unmanned systems."

— Phil Finnegan

DEFENSE & AEROSPACE AGENCIES BRIEFING

CAPTURE YOUR SHARE OF THE DEFENSE AND AEROSPACE MARKET

efense & Aerospace Agencies Briefing is an information service that traces and analyzes the activities of nearly 50 US government agencies, facilities, and other contracting offices that annually dispense billions of aerospace and defense dollars to industry for RDT&E, Procurement, and Services. Defense & Aerospace Agencies Briefing reports are designed to help your company pursue its fair share of the market. Reports cover agency mission and capabilities, funding forecasts, program involvement, contract listings, and points of contact.

To be included in this service, an agency must be involved in either the research and development, procurement or service fields, and annually spend a major portion of its budget in the form of prime contract awards. Each agency has an individual report that is periodically updated to reflect the most recent activities. Reports are added to the service when new players emerge; conversely, an agency's report is removed when it drops out of the market or considerably lessens its involvement in the segment.

Also included are appendixes that give summary information on prime contract awards, including a directory of program managers and other key government contacts, an outline of company involvement by Program Elements and a listing of the past year's major prime contracting activity.



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the japantimes "I don't think simply an order to NASA is going to do anything unless it is accompanied by a notable increase of NASA's budget, and by notable, I mean a doubling or a tripling or a quadrupling of NASA's budget." — Marco Caceres

DEFENSE BUSINESS BRIEFING

YOUR SOURCE FOR UP-TO-THE-MINUTE PENTAGON INFORMATION

In the constantly evolving defense industry, your success depends on keeping up with the latest information. This weekly newsletter tracks the award of Pentagon dollars to industry, including prime awards, subcontracts, teaming arrangements, RFPs, letters of offer and much more. It includes a report of all DoD announced prime contract actions of the previous week, with summaries by company and contract category.

WITH EACH TIMELY ISSUE, YOU RECEIVE:

Contract Briefs – Details of the past week's most important contracts, including information on how many companies were solicited, when and how companies submitted bids, who won and much more.

Contract Summaries – The past week's contracting activity listed by both company and contract category.

Comprehensive Contract Listing – Reports of all actions from the previous week pertaining to unclassified DoD prime contracts valued at \$7 million or more, alphabetized by company.

In the News – Late-breaking DoD business news. An invaluable compendium of detailed information on critical Pentagon business, the data contained in Defense Business Briefing cannot be found in any other publication, including government press releases.



Defense Business Briefing

MARKET FORECASTS



AIRCRAFT

All statistics from the Market Overview section of the World Military & Civil Aircraft Briefing are

available in their entirety. They are made available as an online product. These spreadsheets enable you to determine instantly how each market will shape up over the next 10 years. They allow you to manipulate the data yourself, changing the forecasts according to your own assumptions and providing a powerful strategic planning mechanism.

This product is included with the purchase of the *World Military & Civil Aircraft Briefing* Online.

Online \$1.795



MISSILE & UAV

All statistics from the Market Overview section of the World Missiles & UAV Briefing are available in their entirety. They are made available as an online product. These spreadsheets enable you to determine

instantly how each market will shape up over the next 10 years. They allow you to manipulate the data yourself, changing the forecasts according to your own assumptions and providing a powerful strategic planning mechanism.

This product is included with the purchase of the *World Missiles & UAV Briefing* Online.

Online \$1.295

The New York Times "The A380 was better suited to 1995, before air routes fragmented. As smaller, more efficient planes flood the market, new city pairs are being created almost every day, killing the case for larger aircraft." — **Richard Aboulafia**

WORLD UNMANNED AERIAL SYSTEMS

MARKET PROFILE AND FORECAST

eal Group's **World Military Unmanned Aerial Systems** annual sector study covers the increasingly dynamic international UAV market.

FEATURES INCLUDE:

- 10-Year Market Forecasts Covering R&D and procurement for the overall market and, as well as program and country breakouts.
- Expert Analysis A cogent outlook and rationale for what will be hot over the next decade and what will not.
- **Air Vehicles** Development histories, specifications, functional descriptions, manufacturers, funding and evaluations.
- **Sensors** Electro-optic, infrared, synthetic aperture radar, electronic warfare, SIGINT, and multi- and hyperspectral systems.
- **Requirements** Future requirements are examined for each country likely to be a player in this market.
- Appendix More than 15 years of US DoD prime contract awards.
- Free access to our analysts with this study.



World Military Unmanned Aerial Systems

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World Civil Unmanned Aerial Systems

CD

Online

Teal Group's **World Civil Unmanned Aerial Systems** annual sector study enables you to identify lucrative potential business opportunities in the emerging civil government and commercial UAV market. It contains a wealth of timely intelligence and analysis on the submarkets and the individual systems and companies involved in the market.

FEATURES INCLUDE:

- 10-Year Market Forecasts Covering the overall market as well as segments of the market such as industrial inspection, agriculture, aerial photography, insurance. It will also cover the civil government market including homeland security, law enforcement and environmental work.
- Expert Analysis A cogent outlook and rational for what will be hot over the next decade and what will not.
- **Venture Capital** Analysis of the involvement of venture capital and ways it is transforming the market.
- **Regulations** Differences in the ways regulations for civil/commercial UAS are being implemented worldwide and ways that are transforming the market.
- **Companies** An analysis of the strategies companies are using to position themselves in the emerging civil/commercial market, including acquisitions, teaming and product development.
- **Appendices** Approvals of companies in the United States and other major Western nations to begin commercial operations.
- Free access to our analysts with this study.



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TEAL GROUP CUSTOM RESEARCH

INTELLIGENT ANSWERS TO YOUR INTELLIGENCE QUESTIONS

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- Competitive Analysis
- Economic Development
- Economic Impacts
- Economic Forecasting
- Long-Term Strategic Planning
- Market Analysis and Forecasting

- Market Portfolio Management
- Pricing & Bidding Strategy
- Program Analysis and Forecasting
- Sales & Business
 Development Support
- Strategic Partnering

obtaining and assessing critical market data before and more completely than any other organization. Our proprietary databases contain vast amounts of exclusive business information and market statistics on commercial aircraft, space systems, airborne military programs, engines, and the companies that make them and the governments that own and operate them. In less time than it can take to define the scope and methodology of an internal report, you can have the results of a professionally researched and executed study on your desk with the information you need to make critical business decisions.

Reports Drawn From Information, Not Speculation

Teal Group analysts distill an immense amount of information from thousands of publicly available aerospace and defense resources worldwide. This commitment to "opensource intelligence" techniques assures you of the most accurate production and market forecasts available.

The Intellect Behind the Intelligence

Teal Group analysts, researchers and consultants bring an unparalleled depth of knowledge and perspective to their work. By adding this invaluable intellectual resource to your team, you gain the information you need to make sound business decisions quickly and more cost-effectively.

Forecasts Based on In-depth Market Analysis

Teal Group Custom Research provides reliable forecasts of market trends, enabling you to plan ahead for competitive and market pressures.

PARTIAL CLIENT LIST

- ★ The Boeing Company
- **★** General Electric
- **★ Lockheed Martin**
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- ★ Honeywell
- **★ Northrop Grumman**
- * Airbus SAS

Teal Group Custom Research Can Help

When you call on us for your special intelligence needs, you're tapping into the industry's most up-to-date and complete aerospace and defense industry resource. For more than 25 years, Teal Group analysts have built a reputation for

FOR MORE INFORMATION ABOUT CUSTOM RESEARCH PROJECTS, CONTACT: Richard Aboulafia • Vice President, Analysis • raboulafia@tealgroup.com • (703) 385-1992 ext 103

DOWNLOADABLE REPORTS

Reports are available for download from the Defense & Aerospace Companies Briefing and the World Military & Civil Aircraft Briefing. Individual company and aircraft full reports are included, as are aircraft market segment overviews.

Download: \$400 to \$750 per report





TEAL GROUP'S ANALYTICAL STAFF BIOS



William C. Storey, Jr., President

Bill is founder and president of Teal Group, a company he established in 1987 to provide business intelligence for the worldwide aerospace and defense community. He is author of Teal's *World Power Systems Briefing*. Before Teal, BillservedasmanagingeditorofspecialstudiesforDMS, Inc. in Greenwich, CT. During his seven years with DMS, he edited a wide range of research studies on such subjects as aircraft engines, defense budgets, and industrial process.

Richard Aboulafia, Vice President

Richard writes and edits Teal Group's *World Military and Civil Aircraft Briefing,* a forecasting tool covering over 135 aircraft programs and markets. In addition he manages consulting projects in the commercial and military aircraft field and analyzes broader defense and aerospace trends. He has advised numerous aerospace companies, in the US, Europe and Asia.



Marco A. Caceres, Senior Analyst and Director of Space Studies

Marco is Teal's lead analyst on the *World Space Systems Briefing*. He also directs all special studies involving the space market and has performed market studies for numerous clients, including ATK, Boeing, EADS, General Dynamics, Lockheed Martin, and NASA. He is regularly cited by both the trade and popular press for his space market forecasts.

Philip Finnegan, Director, Corporate Analysis

Phil authors Teal's *Defense & Aerospace Companies Briefing*, whichanalyzes the performance, outlook and strategies of 50 leading aerospace and defense companies. He is a co-author of the annual World Unmanned Aerial Vehicle Systems with responsibility for UAV companies. In addition, he directs strategic and market analysis for clients in commercial aerospace and defense.





David L. Rockwell, PhD, Senior Analyst

David is author and analyst of Teal's *Military Electronics Briefing* as well as co-author of Teal's annual *World Unmanned Aerial Vehicle Systems Market Profile and Forecast*. He writes the quarterly "Eye on Electronics" column for Aerospace America, the journal of the American Institute of Aeronautics and Astronautics(AIAA), and is a frequent contributor to *The Journal of Electronic Defense*.

Steven J. Zaloga, Senior Analyst

Steve authors Teal's *World Missiles & UAVs Briefing* and the *International Defense Briefing*. He also writes the UAV portion of Teal's annual *World UAV Systems Market Profile and Forecast*. He is an author and analyst known worldwide for his articles and publications on military technology. He has written several dozen books on military technology and military history.





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