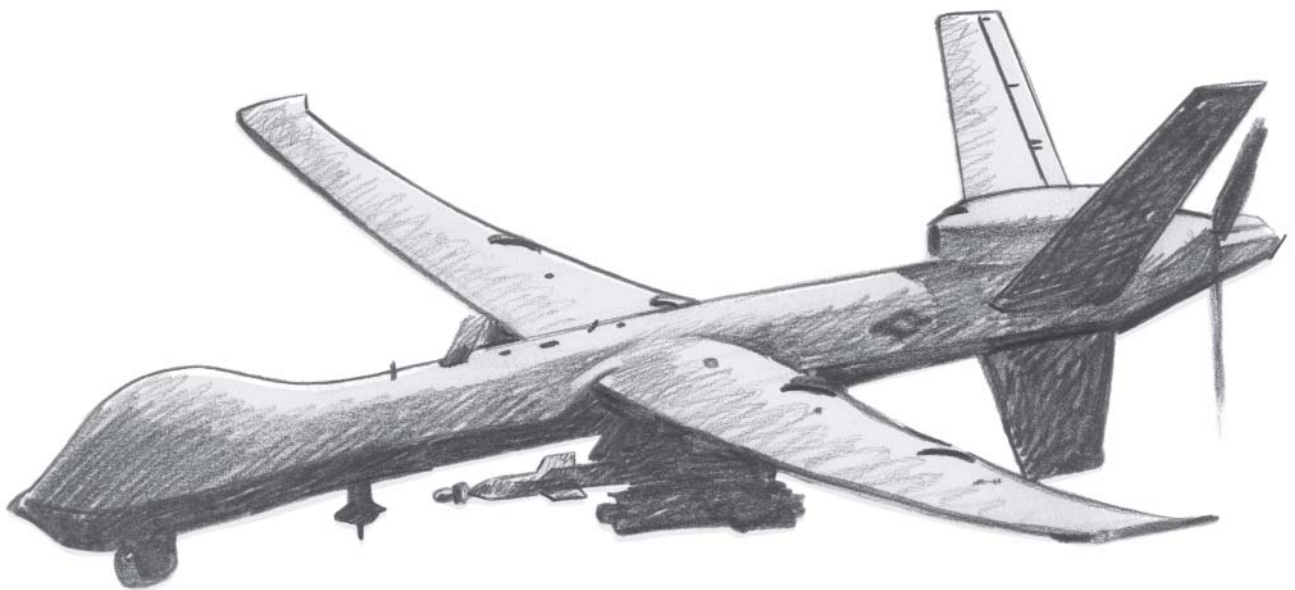


# Aerospace & Defense Update: Mergers, Acquisitions and the Operating Environment

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Spring 2010



## Introduction

We are pleased to have expanded the scope of this report to not only cover merger and acquisition (M&A) activity within various subsectors of the aerospace and defense industry, but also to provide perspective on the operating environment from distinguished colleagues in Grant Thornton's aerospace, defense and government groups around the world.

### Aerospace & Defense Update:

#### Mergers, Acquisitions and the Operating Environment

Grant Thornton Corporate Finance  
Merger and Acquisitions  
Aerospace and Defense Group

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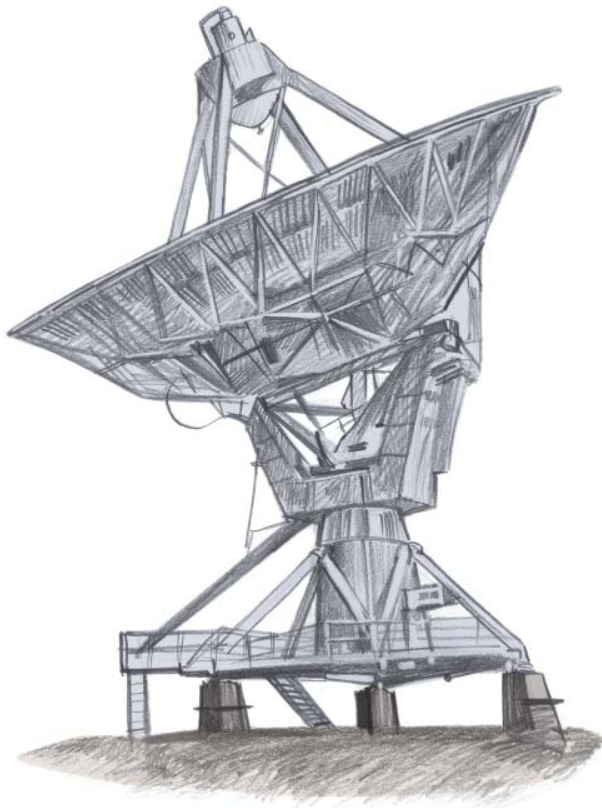
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# Executive summary

## M&A update

### Merger and acquisition overview: Sector outperforms

2009 was a relatively strong year for M&A, with the aerospace and defense sector showing the same number of deals as the prior year. This contrasts with M&A activity as a whole, which showed a 9% decline in the number of U.S. transactions across all sectors. If 2008 can be characterized as a year in which private equity buyers battled to acquire aircraft component manufacturers, then 2009 was a time of strategic acquirers fighting to secure defense technologies.



### Component manufacturing: Return to more normal levels of M&A activity; strategic players realign portfolios

Following several years of private equity firms buying component manufacturers from retiring founders, 2009 saw a decline in M&A activity as order books softened and financing became harder to come by. Strategic players saw it as a time to re-evaluate their portfolios, and many of the year's transactions comprised larger players transferring smaller operations among themselves.

### Defense technology: Defense contractors battle over acquisitions to access growth markets

Defense technology transactions rose 6% as prime defense and government IT contractors used acquisitions as a tool to reposition themselves, following the money flow highlighted by the U.S. Department of Defense (DoD) Quadrennial Defense Review (QDR) into growth areas such as cyber security, unmanned vehicles and surveillance. Defense technology acquirers included prime defense contractors, government IT providers, private equity players and communications equipment companies.

### MRO, component repair and distribution: Increased M&A activity fueled by smaller deals

The maintenance, repair and overhaul (MRO), component repair and distribution segment saw a larger number of smaller deals, with repair shops and distributors being acquired by other complementary industry players. This contrasts with the larger corporate spinoffs of prior years when non-core operations were transferred to dedicated supply chain operators.

### **The operating environment**

#### **Aerospace market outlook: Strong backlog ensures stable revenue**

Aerospace industry sales grew 4% in 2009, benefiting from the record backlog of the last few years. Sales are expected to remain flat in 2010, with weakness in civil aircraft being offset by strong military sales. Looking further out, long-term commercial industry average annual growth of 5% is expected to continue, with the Asia-Pacific market accounting for over one-third of new civil aircraft purchases.

#### **Defense budget: Inherent budget pressures reprioritize procurement spending**

After a sustained period of sizable increases, growth in the defense budget is expected to slow considerably starting in 2011. Spending is likely to be constrained by pressures both external to the DoD (such as growth in Medicare, Medicaid and Social Security) and internal, including growth in acquisition, manpower and maintenance accounts. The QDR points to winners and losers as procurement spending is reprioritized away from large hardware programs to nontraditional, cyber warfare and high-demand, low-density assets used in intelligence, surveillance and reconnaissance.

### **European update: The view from across the pond**

2009 will be remembered as a difficult year for European aircraft suppliers, as uncertainty about the robustness of delivery schedules caused reductions in inventories and placed the supply chain in survival mode. However, it was not all doom and gloom, with many defense companies performing well by supplying equipment to European and U.S. governments in Iraq and Afghanistan. From an M&A perspective, we expect 2010 to be a reasonable year with no mega-deals, but a variety of midsized transactions.

#### **Compliance corner: Increased compliance requirements affect suppliers to government contractors**

Regulations introduced by the Federal Acquisition Regulatory Council (FAR 52.203-13, effective December 2008) have far-reaching consequences not only for government contractors, but also for their subcontractors. The scope of regulation has been extended considerably beyond ethics programs and employee training, to include a formal compliance internal control system and audits of those controls, reporting on failures to comply with ethics programs, and responsibility to detect improper conduct.

#### **Lessons from the automotive supply chain: Surviving a downturn**

Suppliers at all levels of the supply chain are coming under increasing pressure from upstream customers, including the DoD, to proactively manage their supply bases. Aircraft suppliers are learning from the automotive industry, and many have recruited executives from the sector. Increased understanding of program, supplier and customer interdependency and the financial position of suppliers can be expected.

# Mergers and acquisitions update

## M&A overview: Sector outperforms



**Ian Cookson**  
 Aerospace and Defense  
 Grant Thornton Corporate Finance LLC

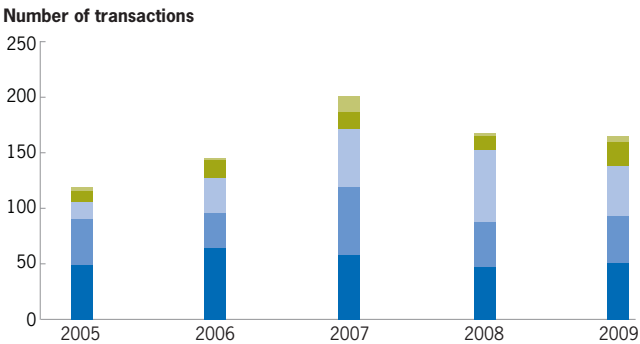
Ian Cookson leads the Aerospace and Defense Group of Grant Thornton Corporate Finance in the United States, where he advises on M&A transactions for clients ranging from leading multinationals to privately held companies.

“2009 was a relatively strong year for M&A, with the aerospace and defense sector showing the same number of deals as the prior year.”

2009 was a relatively strong year for M&A, with the aerospace and defense sector showing the same number of deals as the prior year. This contrasts with M&A activity as a whole, which showed a 9% decline in the number of U.S. transactions across all sectors. If 2008 can be characterized as a year in which private equity buyers battled to acquire aircraft component manufacturers, then 2009 was a time of strategic acquirers fighting to secure defense technologies.

### Aerospace and defense transaction activity

- Defense IT
- Electronics
- Aerospace and defense components
- MRO, repair and distribution
- Other



Sources: Company press releases; certain information taken from Capital IQ

### Strategic players comprise both buyers and sellers

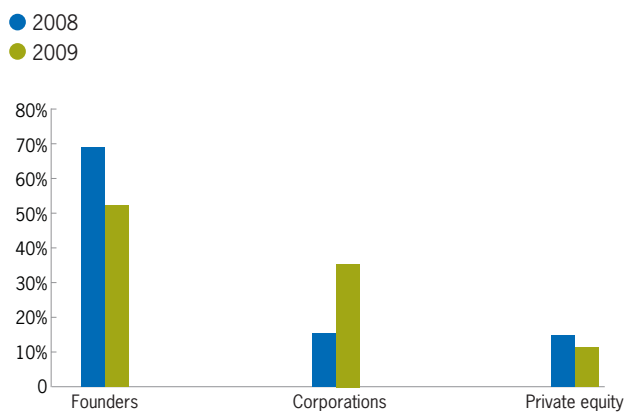
Buyer composition within the aerospace and defense sector remained broadly unchanged in 2009, with strategic acquirers accounting for roughly three-quarters of buyer activity.

Seller composition, on the other hand, shifted significantly, with sales by corporations becoming far more common in 2009. Activity among component manufacturers was driven by strategic players re-evaluating product portfolios and trading assets among themselves, while many of the divestitures within the MRO sector were by struggling smaller companies selling off assets.

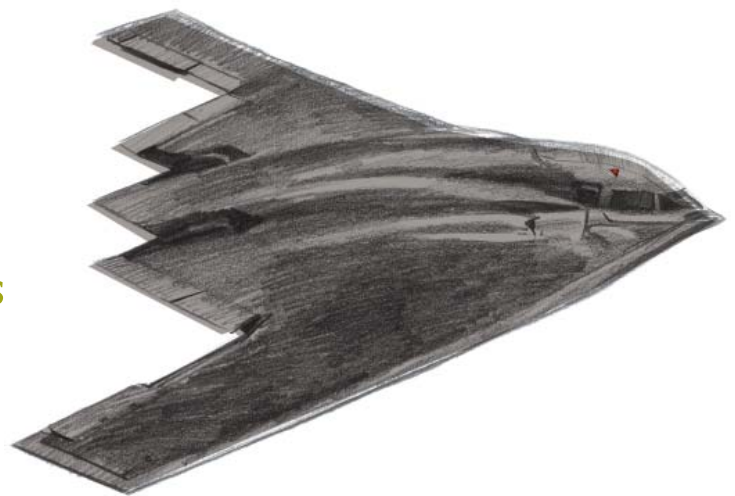
Although business founders and their families still made up half of sellers in 2009, this is compared with nearly 70% in 2008; they also accounted for 25% fewer transactions than the prior year (2008). Component manufacturing experienced the sharpest decline in sales by private business owners, with many founders choosing to wait for earnings to improve before pursuing a transaction.

“If 2008 can be characterized as a year in which private equity buyers battled to acquire aircraft component manufacturers, then 2009 was a time of strategic acquirers fighting to secure defense technologies.”

Aerospace and defense sellers as a percentage of total activity



Sources: Company press releases; certain information taken from Capital IQ



## Valuation

The market value of our aerospace and defense index rose 20% in 2009 on a 4.5% reduction in earnings (EBITDA). The biggest increases (60%) were seen among component manufacturers whose valuation multiples at the start of last year had been hardest hit.

Broadly speaking, public company enterprise value multiples have increased from around 6x EBITDA at the start of 2009, to around 8x by year-end. Prime defense contractors are trading at the lowest multiples of sector companies at around 6x EBITDA, due to concerns about the outlook for long-term defense procurement spending.

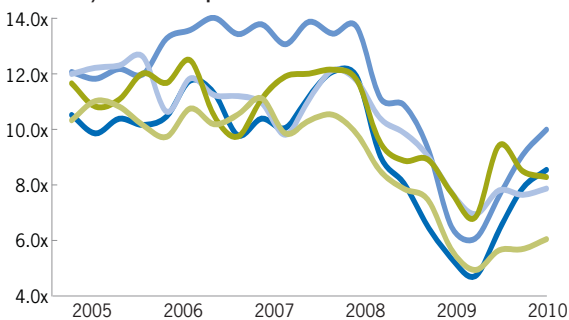
Earnings diverged across segments, with component manufacturing and MRO showing declines during the year, while defense technology continued its growth.



### Aerospace and defense valuation multiples by sector

- Aerospace/defense components
- MRO/component repair\*
- Defense IT
- Aerospace/defense electronics
- Prime defense

#### Median EV/EBITDA multiple



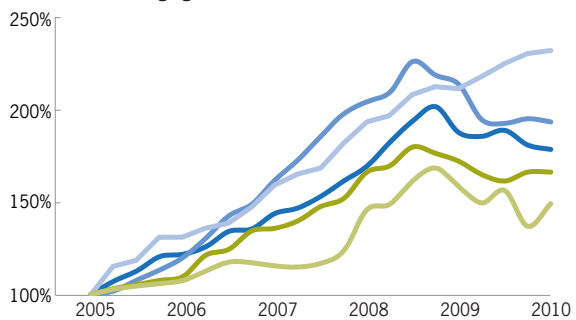
\*MRO valuation skewed by weighting to Asia-Pacific market

Sources: Company press releases; certain information taken from Capital IQ

### Aerospace and defense earnings by sector

- Aerospace/defense components
- MRO/component repair
- Defense IT
- Aerospace/defense electronics
- Prime defense

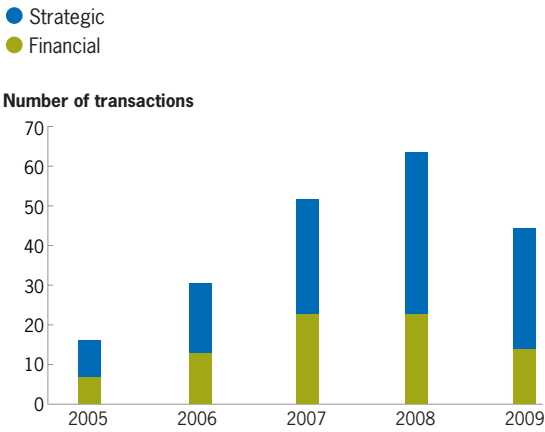
#### Cumulative earnings growth index



Sources: Company press releases; certain information taken from Capital IQ

# Component manufacturing: Return to more normal levels of M&A activity; strategic players realign portfolios

## Aerospace and defense component manufacturing transactions



Sources: Company press releases; certain information taken from Capital IQ

The component manufacturing sector saw a decline in M&A activity for the first time in recent years, with the number of transactions falling by 30% and returning to 2006–2007 levels. Earnings for our component manufacturing sector index, measured by EBITDA, fell 8% on a 3% decline in revenue, as uncertainty about delivery schedules and lower commercial aircraft utilization drove weaker output.

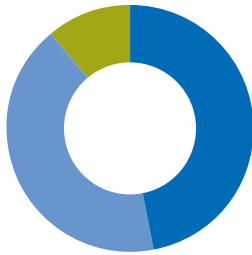
## M&A among corporate sellers

While the heavy activity of the past few years can be summarized from an M&A perspective as a period of business founders selling their aircraft component manufacturing businesses to private equity investors, 2009 must be viewed as a year when the sector’s corporate players re-evaluated their portfolios and traded assets among themselves. Sales of businesses and divisions by corporations increased 75% during 2009, accounting for 42% of transactions. In almost all cases the buyers of those businesses were other corporations.

In contrast, the number of sales by founders and private equity groups more than halved from a year earlier, as many players are waiting for earnings to improve before pursuing a transaction. Acquisitions by financial sponsors fell by one-third during the year, as acquirers struggled with reduced debt availability and a less certain earnings outlook. Nevertheless, acquirers found ways to access funding, and financial buyers still accounted for one-third of component manufacturing acquisitions in 2009. This is in stark contrast to U.S. M&A activity as a whole where private equity firms fell from one-quarter of transactions to around 15%.

## Sellers of aerospace and defense component manufacturing businesses by ownership type — 2009

- Corporations 47%
- Founders 42%
- Private equity 11%



Sources: Company press releases; certain information taken from Capital IQ

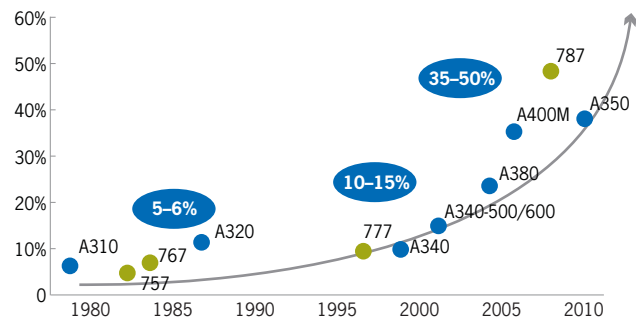
### Composites continue to be attractive targets

Component makers continue to be attracted to companies with composite capabilities; however, few acquisition targets of scale are available. Consequently, some strategic component manufacturers are expanding their own businesses organically, as they can no longer ignore the importance of working with composite materials.

The now cost-effective composites comprise 50% of content on new generation planes and require fewer parts, resulting in less assembly. In addition, composites improve fuel economy by reducing weight and allowing increased passenger loads. Fuel accounts for around 63% of airline operating costs in North America; therefore, any slight improvement in fuel consumption via a decrease in aircraft weight equates to significant savings. Additionally, green-conscious consumers — particularly in Europe — are increasingly pressuring airlines to decrease fuel consumption and reduce the carbon footprint of their fleet.

Many composite businesses failed to see the growth they expected in 2009, as much of the market was tied to the Airbus A400M & A350 and Boeing 787 — which have faced well-publicized delivery delays. Because orders were pushed back and revenues failed to materialize, acquirers are coming to view the environment as a buying opportunity, while potential sellers whose pricing expectations are unchanged seek to defer transactions until revenues ramp up.

Aircraft composite content percentages over time



Sources: Hexcel Corp, Aerostrategy

### Armored and tactical vehicle manufacturing activity

Armored and tactical vehicles has continued to be an active segment, with 26 transaction announcements over the past five years as players have tried to cope with the sizable spikes and troughs of DoD orders. Buyers include composite material and armor manufacturers seeking to expand their product offerings. The segment has also seen significant interest from private equity buyers.

“Component makers continue to seek acquisitions of composite capabilities.”

### Illustrative aerospace and defense component manufacturing transactions — 2009

Date	Target	Description	Acquirer
Dec-09	Global Aeronautica	Applies surface finishes and integrates 787 fuselage sections	Boeing Co.
Dec-09	Drive Dynamics LLC, Military Runflat Technology	Runflat tire components and systems for the defense sector	J.F. Lehman & Company
Dec-09	Arrow Industrial Ltd	Precision machined parts for aerospace	Premier Precision (Spell Capital)
Dec-09	Alcoa-SIE Cargo Conversions	Aluminum sheet, components, and alloys for aerospace	Pemco World Air Services
Dec-09	Orion Propulsion	Designs, fabricates, tests, and produces propulsion systems	Dynetics, Inc.
Dec-09	Ameron Global Inc., Pres. Gas Systems Business	Pressurized gas components and systems for aerospace	Ametek Inc.
Dec-09	Dukes Inc.	Fuel pumps, pneumatic valves, and cabin pressure control systems	TransDigm Group
Nov-09	AdvaTech Manufacturing	Engineered plastic parts for aerospace, defense, and motorsports	3D Systems Corporation
Nov-09	21st Century Airships Team Inc.	Airships including high altitude airships and UAVs	E-Green Technologies, Inc.
Nov-09	Arnold Engineering Inc.	Small and large complex assembly structures and ground support equipment	HKW & Co.
Sep-09	Carlton Forge Works and Arcturus Mfg. Corp.	Rotating and structural components for turbine engines	Precision Castparts
Sep-09	GE Flight Control Actuation Business	Flight control actuation systems	Moog Inc.
Sep-09	Hi-Shear Technology Corp.	Pyrotechnic, mechanical, and electronic products for aerospace/defense	Chemring Group
Sep-09	Precision Aerostructures Inc.	CNC machined multi-axis structural aircraft components	New Century Companies
Sep-09	Structural Composites Industries	Composite cylinders, pressure vessels, and structures	Worthington Cylinder
Aug-09	k Technology	Thermal management for power electronics cooling and heat transfer applications	Thermacore, Inc.
Aug-09	ADB Airfield Solutions LLC	Airfield lighting solutions and services	Montagu Private Equity
Aug-09	Eclipse Aviation Corp.	Manufactures very light jet (VLJ) aircraft	MBO
Aug-09	J.A. Reinhardt & Co. Inc.	Thermal and mechanical products for aerospace	TSI Group (Ares Capital, Arlington Capital)
Jul-09	Acme Aerospace Inc.	Custom batteries and battery control electronic systems for aircraft	TransDigm Group
Jul-09	Weatherly Aircraft Nevada Inc.	Aerial application aircrafts for agricultural, chemical, and fire fighting applications	N.A. Factory for Technologically Advanced Aircraft
Jul-09	Vought Aircraft Industries Inc., South Carolina	Rear sections of the composite fuselage for Boeing 787	Boeing Co.
Jun-09	Defense Venture Group Ltd	Armored vehicles, personal protection, specialized security products	J.F. Lehman & Company
Jun-09	Aimco Precision Inc	Airframes, systems, and aircraft and turning engine components	Premier Precision (Spell Capital)
Jun-09	Aerial Machine and Tool Corp.	Tactical vests, personnel restraints, and search and rescue equipment	MBO
Jun-09	AirStar International Inc.	Radio-controlled helicopters for movie, military, and commercial applications	Mundus Group, Inc.
Jun-09	Diaphorm Technologies LLC	Personal armor protection products	Ceradyne Inc.
May-09	EDAC Aero	Rotating engine components	Edac Technologies Corp.
May-09	Lake Aircraft LLC	Amphibious seaplanes and parts for aircrafts	Air Transport Group Holdings, Inc.
Apr-09	Velcon Filters LLC	Filters that purify, and remove water from jet fuel	The Sterling Group
Apr-09	Integrated Composites Inc.	Composite structures for aerospace/defense	Acorn Growth Companies
Apr-09	Vertigo Inc.	Precision airdrop systems	Hunter Defense (Metalmark Capital)
Mar-09	Space Vector Corp.	Launching components	MBO
Mar-09	The Mexmil Company Inc.	Aerospace insulation systems	Triumph Group
Mar-09	Merritt Tool Company Inc.	Machining, CNC milling, turning, grinding, for aerospace contracts	Triumph Group
Mar-09	Advanced Ceramics Research Inc.	Preformed ceramic components for military applications	BAE Systems
Mar-09	EST Group Inc.	Tubular heat exchangers, condensers, piping systems, and pressure vessels	Curtiss-Wright Corp.
Mar-09	DR Technologies Inc.	Components for aerospace/defense	Nogales Investors Management
Feb-09	Woodward HRT Inc.	Motion control systems and components	Woodward Governor
Feb-09	Tech. Assess. and Transfer Transparent & Spinel Tech	Transparent ceramic armor solution for tactical and combat vehicles	ArmorLine Corporation (J.F. Lehman)
Feb-09	Composite Solutions LLC	Tubes, panels, plates, and complex shapes for aerospace	Nammo AS
Jan-09	Protective Products of America Inc., Delaware Assets	Ballistic protection for personnel and vehicles	MBO
Jan-09	Nu-Torque	Valve actuators naval vessels	Curtiss-Wright Corp.
Jan-09	Weatherly Aircraft Nevada Inc.	Aircrafts for agricultural, chemical, and fire fighting applications	MP2 Technologies
Jan-09	DiamondView Armor Products LLC	Armor systems primarily used in defense applications	Schott AG

Sources: Company press releases; certain information taken from Capital IQ

# Defense technology: Defense contractors battle over acquisitions to access growth markets

Defense technology saw a 6% increase in M&A activity in 2009 with a particularly strong second half of the year. M&A activity is likely to continue as the DoD, shaped by the 2010 QDR, shifts away from “big iron” and focuses on high-demand, low-density assets such as unmanned aircraft, cyber security, and Command, Control, Communication, Intelligence, Surveillance and Reconnaissance (C3ISR) technology. Defense contractors and government IT providers, mirroring these shifts in spending priorities, are actively looking to acquisitions to enhance their capabilities. Earnings for our defense IT company index rose 8% (EBITDA) during the year, and defense electronics company earnings rose 5%.

## Prime defense and government IT contractors seek growth in defense technology

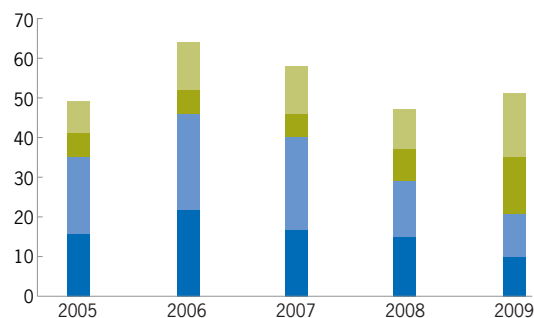
There has been continued competition among prime defense contractors, traditional government IT providers and private equity players for strategic acquisitions within the defense technology sector. Acquirers are building capabilities in market niches within homeland security, cyber security, logistics support, navigation and guidance, and interactive training and simulation, among others. Prime defense contractors (e.g., Raytheon, Lockheed Martin, Northrop and Boeing) are especially interested in acquisitions that can be incorporated into current offerings to create fully integrated intelligent defense systems. Meanwhile, government IT providers (e.g., SAIC, ManTech and Kratos), not wanting to cede ground, are pursuing acquisitions that add capabilities and expertise.

Foreign defense players (e.g., QinetiQ, Ultra Electronics, Cobham and Finmeccanica) have also been active as they seek access to the world’s largest defense market. The U.S. government, through the Committee on Foreign Investment in the United States (CFIUS), has become more comfortable permitting sales to non-U.S. entities, with information classified as “top secret” or above being controlled through proxy agreements/voting trusts.

## Defense software and service transactions

- Communications hardware and other
- Private equity
- Government IT
- Defense

### Number of transactions



Source: Company press releases; certain information taken from Capital IQ

Private equity has sought out opportunities with buyers coming from two camps — those traditionally focused on technology and those with a defense specialty. Over the past 12 months, half of sponsor-led deals were bolt-on acquisitions that added expertise and capabilities to current portfolio companies, while half were new platform investments. Recent private equity successes such as the sale of BBNT to Raytheon are likely to attract attention and increase future investments.

Smaller businesses were the focus of attention, as transactions with values less than \$100 million accounted for 90% of acquisitions. The cyber and homeland security segments were of particular interest, accounting for more than 40% of deal volume over the last year, as buyers took advantage of accelerated spending aimed at protecting against cyber and terrorist attacks.

### OCI legislation

Organizational conflict of interest (OCI) legislation within the Weapon Systems Acquisition Reform Act of 2009 is also affecting transaction activity of prime defense contractors (primes). Primes are likely auditing existing systems engineering and technical assistance (SETA) contracts to assess potential conflicts with large acquisition programs. SETA opportunities therefore may shift back to traditional government IT providers, as primes withdraw from areas that pose potential conflicts. Northrop's recent divestiture of its TASC unit, a provider of advisory services to the DoD, is a good example of a sale resulting from the new OCI legislation.

### A decade of acquisition and change

The M&A landscape within defense IT has changed significantly over the last decade. In the late 1990s and early 2000s, serial roll-ups consolidated the fragmented government IT sector and created businesses of scale. Growth was fueled by the government's transition toward outsourcing government jobs, combined with the technology bubble, Y2K preparation and abundant IPO capital. Prime defense contractors largely remained on the sidelines, making up less than 10% of buyers. In recent years, primes have accounted for around one-third of transactions, as defense IT has become increasingly central to national security.

### Private company values

Private company valuations within defense IT vary considerably according to company-specific factors relating to technology and expertise, contracts and customers, and growth and profitability. By way of illustration, smaller privately held companies (transaction value less than \$50 million) trade at a median of 1.0x revenues; the top valuation quartile sells for more than 1.5x revenues, while the bottom quartile changes hands at less than 0.4x revenues. Buyers pay a premium for proprietary products/processes, full and open contracts, and significant future growth.

#### Private M&A valuation — driven by company-specific factors

##### Technology and expertise

- Buyer need
- Proprietary products/processes
- Technology/ability/skill set
- Leveragability/scalability

##### Growth and profitability

- Growth rate
- Backlog
- Margin/profitability

##### Contracts and customers

- Full and open contracts
- Prime contractor relationships
- Customer diversification
- Security clearances

### Unmanned vehicles take flight

Unmanned aerial vehicles (UAVs) continue to be a focus of M&A activity, with 21 deals relating to UAVs (aircraft, components or electronics) occurring in the past four years.

UAVs have seen widespread adoption and are a major focus in the 2010 QDR, as they eliminate risk to humans, are cost-effective to procure and operate, have greater endurance and, consequently, gather significantly more data than manned aircraft. Demand for UAVs is growing, not only as a replacement for manned aircraft, but more significantly due to their ability to carry out missions, particularly reconnaissance, not previously undertaken. Their very availability effectively creates demand and, as such, it is not surprising that in 2009 there were more UAV sorties than manned sorties by total number and significantly more by flying-hour. Demand for UAVs has increased six-fold since 2004 and is forecast to double again between 2010 and 2015. According to the 2010 proposed defense budget, UAVs will account for over one-third of planes purchased by the U.S. Air Force.

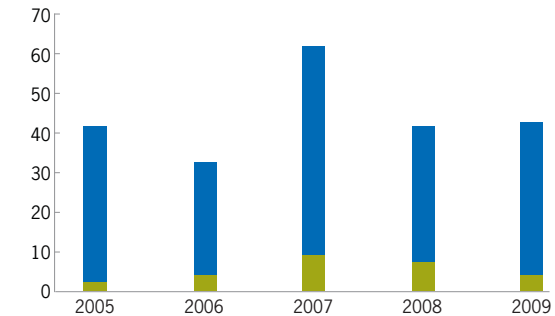
	UAV	Manned MH-53
Maximum sortie duration (hours)	24	2.5
Sorties for 24-hour coverage	1	10
Personnel needed (24-hour coverage)	3	25
Acquisition cost	\$1 m	\$175 m
Per hour cost	\$336	\$15,800
Risk (lives)	0	1

Source: Northrop-Grumman

### Aerospace and defense electronics transactions

- Strategic
- Financial

Number of transactions

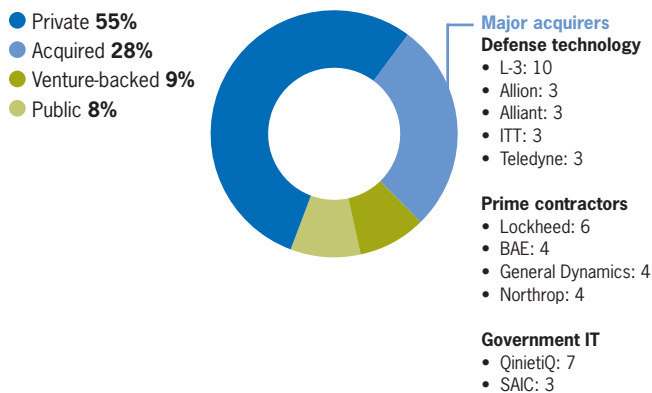


Sources: Company press releases; certain information taken from Capital IQ

### ISR drives growth in electronics

Deal volume within the aerospace/defense electronics sector increased by 2% in 2009. Companies providing surveillance and other precision optical and imaging systems were especially hot targets, as strategic buyers sought to strengthen their capabilities in the high-growth tactical intelligence, surveillance and reconnaissance (ISR) market. Vision systems, such as night vision goggles, range finders and thermal weapon sights, have been increasingly in demand, with a marriage of technological advances and the rise in door-to-door combat operations.

### DOD SBIR company 10-year landscape



Sources: DoD SBIR filing and company press releases; certain information taken from Capital IQ

### SBIR-funded businesses prove attractive acquisitions

Large firms within defense technology, prime defense and government IT have actively been acquiring businesses funded under the federal government’s Small Businesses Innovation Research (SBIR) program, as they seek to acquire cutting-edge products and technology. Over one-quarter (175) of SBIR businesses with 35 or more employees receiving Phase II prototype development awards have been purchased over the past 10 years with L-3, Lockheed, BAE, General Dynamics, Northrop and QinetiQ being particularly acquisitive.

Acquired SBIR companies can be broadly characterized by activity as:

- 45% involved in electronics and electrical components, particularly communications, surveillance and optical equipment;
- 30% involved in software for IT security, command and control, and cyber security; and
- 20% involved in components and materials for aerospace, naval, and UAV applications.

“Over one-quarter of SBIR companies that have received Phase II awards within the past 10 years (and have more than 35 employees) have been acquired, with large contractors being the most frequent buyers.”

## Illustrative defense IT transactions — 2009

Date	Target	Description	Acquirer
Dec-09	Master Solutions LLC	Software & systems engineering and enterprise architecture services for DoD	Stinger Ghaffarian Technologies
Dec-09	Assured Decisions LLC	Government cyber security services	SafeNet Inc.
Dec-09	Sensor Technologies Inc.	C4ISR solutions and services to the DoD	ManTech International
Dec-09	TYBRIN Corp.	Integration process-based systems and software engineering services to DoD	Jacobs Engineering Group
Dec-09	Lombardi Software	Businesses process outsourcing for the DoD	International Business Machines
Dec-09	CoreStreet Ltd	Credential validation solutions for government	ActivIdentity Corporation
Dec-09	Unitek Technical Services Inc.	Supply-based technical services aerospace/defense	National Quality Assurance, USA
Dec-09	Jacob & Sundstrom Inc.	IT security services and solutions for defense	ICF International
Dec-09	BIT Systems Inc.	Software development, sensor development, and SETA services	Six3 Systems Inc (GTCR)
Nov-09	Air Routing International	Aviation trip support specialists	Rockwell Collins
Nov-09	Orsus Solutions Inc.	Situation management software solutions for homeland security	NICE Systems Ltd.
Nov-09	Naverus Inc.	Support programs and training services for aircraft navigation	GE Aviation
Nov-09	Segovia Inc.	Satellite network services for military	Inmarsat Plc
Nov-09	Saber Design & Analysis Services LLC	Finite element analysis software, support, training and consulting	Saratech, Inc.
Nov-09	TASC Inc.	SETA services for defense	General Atlantic, KKR
Nov-09	SSI Services Inc.	Offers critical-mission support operations	AECOM Technology
Nov-09	Solvem Innovations Inc.	Software development and engineering and security engineering solutions	TeleCommunication Systems
Oct-09	Scytale Inc.	Application software and professional services to the federal government	Ultra Electronics
Oct-09	Trancite Logic Systems	Anti-terrorism software for facilities, plants, and private business sites	A-T Solutions, Inc. (CoVant Management)
Oct-09	Veritas Analytics	Homeland security software and consulting	Camber Corporation (New Mountain Capital)
Sep-09	Phoenix Consulting Group	Intelligence training, consulting, and augmentation services to military	DynCorp International
Sep-09	Perot Systems	IT solutions and outsourcing to the DoD	Dell Inc.
Sep-09	TranSecur	Intelligence organization providing security and travel risk management services	NC4, Inc.
Sep-09	System Technology Solutions Inc.	IT security products and services for the private and government sectors	The Evermedia Group
Sep-09	Pyxis Engineering LLC	SETA services for the DoD and Intelligence community	Applied Signal Technology
Sep-09	Seaweed Systems Inc.	Graphics software supporting the DoD	Presagis USA, Inc. (CAE)
Sep-09	BBN Technologies Inc.	Shooter detection system	Raytheon Co.
Aug-09	I2S Inc.	Intelligence analysis, enterprise architecture, and knowledge management	Camber Corporation (New Mountain Capital)
Jul-09	Cryptek Technologies Inc.	Network security solutions	API Technologies Corp.
Jul-09	Atlan Inc.	IT security and cryptographic products	SAIC, Inc.
Jul-09	SynExi LLC	Identifies develops, and adopts technologies for government organizations	Trace Systems, Inc.
Jul-09	ITSolutions LLC	Consulting services and solutions for government agencies	Snow Phipps Group, LLC
Jun-09	Aerodyne	Aerospace engineering solutions to government and industrial companies	MCR Inc. (Harrison Street Real Estate)
Jun-09	Harding Security Associates Inc.	Strategic security solutions to intelligence and defense communities	Six3 Systems Inc. (GTCR)
Jun-09	eXMerit Inc.	Systems to protect sensitive information assets of security and defense org.	Boeing Co.
Jun-09	Relax Software Corp.	Integrated reliability and maintainability analysis solutions for aerospace/defense	Parametric Technology Corporation
Jun-09	Accelligence LLC	Intelligence consulting services	A-T Solutions, Inc. (CoVant Management)
May-09	Wyle	Aircraft and spacecraft research, development, test, and evaluation	Court Square Capital Partners
May-09	IntelArtisans LLC	IT security services	SecureIT Consulting Group Inc.
May-09	Cyveillance Inc.	Internet security software solutions	QinetiQ Group
Apr-09	Crucial Security Inc.	Engineering services for law enforcement and intelligence agencies	Harris Corp.
Apr-09	24/7 Solutions Inc.	Specialized services, software, and solutions to the U.S. intelligence sector	Sentel Corp.
Apr-09	Stratos Global Corp.	Remote telecommunications services for military/defense	Inmarsat Plc
Apr-09	Integrated Network Services Inc.	IT consulting to solve technical problems in intelligence and defense	Preferred Systems Solutions (CM Equity Partners)
Apr-09	Argotek Inc.	IT security systems	Cobham plc
Mar-09	Kratos' Vigily Product Portfolio	IT systems providing information between field personnel and operations	Patriot Scientific Corp.
Mar-09	DDK Technology Group Inc.	IT consulting services	ManTech International Corp.
Feb-09	McMunn Associates	Analytical, technical, training, and exercise facilitation services to government	The Parsons Corporation
Feb-09	Tilcon Software Limited	Embedded software engineering solutions for defense	Wind River Systems (Intel Corp.)
Feb-09	Entrust Inc.	Solutions for securing digital identities and information	Thoma Bravo

Sources: Company press releases; certain information taken from Capital IQ

### Illustrative aerospace and defense electronics transactions — 2009

Date	Target	Description	Acquirer
Dec-09	Directed Perception Inc.	Devices sensor positioning and precision instruments	FLIR Systems, Inc.
Dec-09	Cinch Connectors Inc.	Electrical connectors, harnesses, cables, and assemblies to military/aerospace	Bel Fuse Inc.
Dec-09	Merrimac Industries Inc.	Electronic components/subsystems for military and other high-reliability markets	Crane Co.
Sep-09	GE Homeland Protection	Equipment and services to protect airports, ports, and critical infrastructures	SAFRAN S.A.
Dec-09	EaglePicher Technologies LLC	Batteries for missiles, submunitions, mines, fuzes, and aerospace power backups	OM Group Inc.
Oct-09	Quanta Systems LLC	Electrical security systems	Black Box Corp.
Dec-09	Spectrum San Diego Inc., CarScan Product Line	Automobile imaging systems providing detection of explosives and contraband	SAIC
Sep-09	Jerrick Inc.	Filtered and transient voltage suppression connectors	Carlisle Companies Inc.
Dec-09	General Technology Corp.	Contract electronic manufacturing to the space, aerospace, and military markets	IEC Electronics Corp.
Dec-09	Sierra Monolithics Inc.	Custom integrated circuits used in wireless and wireline, and military applications	Semtech Corp.
Dec-09	Recon/Optical Inc.	Intelligence, surveillance, and reconnaissance systems	EOS Defence Systems Inc.
Dec-09	Optics 1 Inc.	Optics and optical systems	SAFRAN subsidiary Sagem
Nov-09	Micro Networks Corp.	Precision electronic devices and modules for defense	Spectrum Control
Nov-09	Atlantic Inertial Systems	Inertial products for navigation, guidance, and control	Goodrich Corp.
Nov-09	Sidereal Solutions	Networking and communications technology solutions for the DoD	TeleCommunication Systems Inc.
Oct-09	Applied Optical Systems Inc.	Fiber optic interconnect components, assemblies, and sub-systems for military use	Optical Cable Corp.
Oct-09	Sypris Test & Measurement Inc.	Calibration, component screening, and product testing and evaluation services	Danaher Corp.
Oct-09	Barr Associates Inc.	Thin film coatings and optical filters	Brush Engineered Materials Inc.
Oct-09	OmniTech Partners Inc.	Optically fused sensor night vision systems	FLIR Systems, Inc.
Sep-09	Allen-Vanguard Corp.	Technologies, tools, and training for defeating and minimizing the effects of IEDs	Versa Capital Management, Inc.
Aug-09	AeroMech Engineering Inc.	UAVs and a video-game-like interface allowing operators to manage UAV missions	Chandler/May (Arlington Capital Partners, CSP)
Aug-09	Con-Space Communications Ltd	Industrial voice communication and video products	Turret Oy Ab
Aug-09	NS Microwave	Electronic microwave surveillance and security systems to defense agencies	3DRS International, Inc.
Jul-09	Gyrocam Systems LLC	Gyrostabilized camera systems for law enforcement and security applications	Lockheed Martin Corporation
Jul-09	C-Tech Ltd	Sonar systems for the major defense contractors	Marport Canada Inc.
Jun-09	Cyber Defense Systems Inc.	UAVs and manned and unmanned lighter-than-air airships	LIGATT Security International, Inc.
Jun-09	Salvador Imaging Inc.	Cameras for scientific, industrial, and military applications	FLIR Systems, Inc.
Jun-09	SolaCom Technologies	Communication systems for air traffic control towers	Harris Corp.
Jun-09	Axsys Technologies Inc.	Precision optical solutions for defense, aerospace, and homeland security	General Dynamics Corp.
May-09	Soneticom Inc.	Hi-tech communications products and systems, and wireline and wireless products	DRS Technologies, Inc. (Finmeccanica)
May-09	AeroSat Corp.	Aviation communications solutions	CAI Private Equity
May-09	VPT Inc.	Power supplies for military, aerospace, space, and terrestrial vehicles	Heico
May-09	Cloud Cap Technology Inc.	Integrated autopilots, payloads, and sensors for the unmanned systems market	Goodrich Corp.
Apr-09	Endwave Defense Systems Inc.	Radio frequency amplifier modules for defense, radar, and homeland security	Microsemi Corp.
Apr-09	Locus Microwave Inc.	Microwave radio products for military satellite communication applications	Codan Ltd.
Apr-09	Flight Deck Resources Inc.	Electronic flight bag solutions	The IMS Company
Apr-09	DataPath Inc.	Mobile satellite communications systems	Rockwell Collins Inc.
Apr-09	KillerBee UAS line	UAV systems	Northrop Grumman Corporation
Mar-09	M/A-COM Technology Solutions Inc.	Wireless radio frequency, microwave semiconductor components	GaAs Labs
Mar-09	EMRISE's Digitran Switch	Rotary switches and encoders for military markets	Electro Switch Corp.
Jan-09	DME Corp.	Aviation and defense safety and test products	Astronics Corp.
Jan-09	Universal Space Network Inc.	Space operations and telemetry, tracking and control services	Swedish Space Corporation
Jan-09	ACT/Technico	Circuit boards, software and integrated embedded systems to military/aerospace	Elma Electronic AG

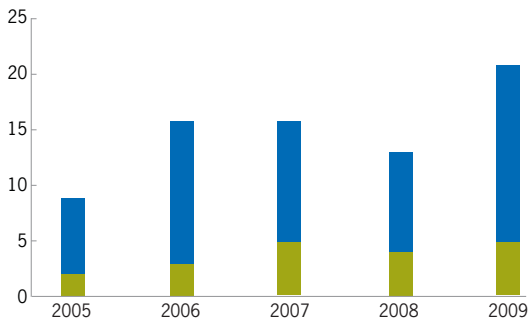
Sources: Company press releases; certain information taken from Capital IQ

# MRO, component repair and distribution: Increased M&A activity fueled by smaller deals

## MRO, component repair and distribution transactions

- Strategic
- Financial

### Number of transactions



Sources: Company press releases; certain information taken from Capital IQ

M&A within the MRO, component repair and distribution sector rose 60% in 2009; however, transactions were far smaller than those in 2008. Niche MRO and component repair shops accounted for much of sector deal volume in 2009, contrasting strongly with the large corporate spinoffs of prior years. Earnings of our MRO index fell by approximately 13% (in EBITDA) due to lower aircraft flying-miles and reduced retrofit and refurbishment activities in the commercial sector. This was somewhat offset by increased demand from the U.S. military and other government customers.

## Improving MRO outlook

The MRO outlook appears more positive in 2010, as passenger air traffic is expected to increase by 4.5%<sup>1</sup> (versus a decline of 4.1% in 2009), resulting in higher aircraft utilization and increased maintenance activity. In addition, airlines are likely to continue outsourcing MRO services to third-party providers (currently at 65%), as they seek to lower overhead, cut operating costs and focus on their core activities. Longer term, MROs could benefit from an uptick in avionics installations as Next Generation Air Transportation System (NextGen), the \$45 billion to \$75 billion overhaul of the U.S. National Airspace System (NAS), moves toward implementation.

Obstacles facing MROs, however, remain including pressure from airlines to maintain larger inventories in order to improve aircraft turnaround time and avoid flight cancellations. In addition, fewer maintenance checks may be performed due to the increased retirement of older, less efficient aircraft over the past few years (1,000 per year during the economic downturn versus 200–300 in normal times).

### **M&A dominated by smaller niche businesses**

Sector M&A increased significantly in 2009, although transactions were of a much smaller nature compared with years past. MROs comprised half of sector volume, most of which service smaller charter/business jets and helicopters. Purchasers were, for the most part, fixed-base operators (FBOs) expanding operations by acquiring smaller businesses suffering from lower maintenance volume.

Component repair and distribution firms each accounted for roughly one-quarter of sector activity, with acquirers comprising other repair shops and distributors, component manufacturers, air transport services, and private equity. Sellers were primarily private business owners; however, there were a handful of divestitures performed by component manufacturers.

Notable by their absence in 2009 were transactions by large airframe and engine OEMs wrestling with the gnawing desire to capture greater earnings over the life of the equipment that bears their names.

### **The importance of strong inventory controls**

The collapse of Aero Inventory Plc, a \$530 million revenue logistics solutions provider to airlines, highlights the need for strong IT and control systems within component distribution and logistics businesses. Statements suggest Aero Inventory's failure resulted from inexperienced staff repeatedly buying large quantities of slow-to-sell parts and selling inventory based on incorrect inventory valuations.

Smaller businesses also have a need for strong inventory management systems. Many operators who come from a parts brokerage or trading background, expense purchases when they are made and have weak records of what parts they actually hold in inventory. This complicates M&A transactions, as buyers seek to understand underlying earnings of the business on an accrual basis, reflecting the cost of goods actually sold rather than purchased.

**“Notable by their absence in 2009 were transactions by OEMs trying to capture greater earnings over the life of their equipment.”**

<sup>1</sup> Source: International Air Transport Association, “Financial Forecast,” December 2009

### Illustrative MRO, component repair and distribution transactions — 2009

Date	Target	Description	Acquirer
Nov-09	A.E. Petsche Co.	Distributes military/aerospace interconnect products and services	Arrow Electronics
Oct-09	Herndon Products	Supplies assembly components to the aerospace and defense industry	Thayer   Hidden Creek
Aug-09	Dynatech International	Military aircraft component distribution and logistics	Military Parts Exchange
Aug-09	U. S. Logistics Inc.	MRO of tactical military vehicles, aircraft, and aerospace ground equipment	Ranger Aerospace
May-09	Banner Aerospace	Offers a variety of aircraft parts, and component repair and overhaul services	Greenwich AeroGroup
Mar-09	AV-EX	Distributes parts to commercial airlines and MROs	Global Aviation
Mar-09	CAV International	Provides airfield services & logistics	Ranger International Services
Nov-09	Piedmont Propulsion Systems	Component repair and MRO services	First Aviation Services
Nov-09	Kelly Aerospace Turbine Rotables	Repair services for turbine powered and piston powered aircraft	First Aviation Services
Oct-09	Pegasus Aircraft Maintenance	MRO for commercial and government aircraft	Akima Management Services
Sep-09	Signature Flight Support, Beechcraft Facility	Aircraft maintenance services	Million Air Interlink
May-09	Northstar Aerospace, Engine Service Group	MRO and field services	Mint Turbines
May-09	Ronson Aviation	Aviation-related services to general and business aviation sectors	Hawthorne Corporation
Apr-09	Limco-Piedmont	MRO and parts supply services to the aerospace industry	TAT Technologies
Mar-09	American Composites	MRP of flight control surfaces, radomes, and other composite components	Aero Maintenance Group
Mar-09	JetCorp Technical Services	Aviation maintenance services	Flying Colours Corp.
Mar-09	Heli-Welders Canada	Helicopter repair services	Canadian Helicopters
Mar-09	GSA Aircraft Services	Aircraft storage, maintenance services, and teardown operations	Great Southwest Aviation
Feb-09	Prime Turbines	MRO and component distributor	Avatas Aerospace
Jan-09	Global Aircraft Solutions	MRO services to owners and operators of transport and commercial jets	Victory Park Capital Advisors
Jan-09	ASHAKF Inc.	MRO for commercial aircrafts and regional jets	Ametek Inc.

Sources: Company press releases; certain information taken from Capital IQ



# The operating environment

## Aerospace market outlook: Strong backlog ensures stable revenue



### Ari Goldschneider

Associate  
Grant Thornton Corporate Finance LLC

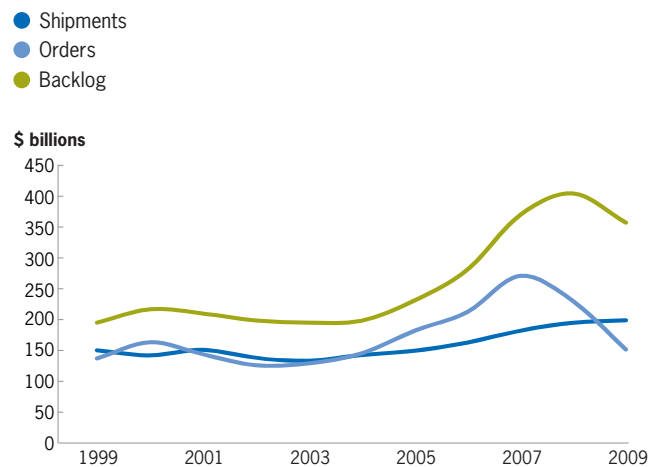
Ari Goldschneider is an associate at Grant Thornton Corporate Finance and contributes regularly to aerospace and defense thought leadership.

Despite the economic gloom, aerospace industry sales grew 4% in 2009, benefiting from the record backlog of the last few years. The Aerospace Industries Association (AIA) expects sales in the coming year to remain flat (despite a 33% reduction in new orders in 2009), with weakness in civil aircraft being offset by growth on the military side. Looking further out, long-term industry average annual growth of 5% experienced over the past 20 years is expected to continue, with the Asia-Pacific market accounting for over one-third of new civil aircraft purchases. This poses a threat for suppliers, due to offset requirements and pressures for local production, and also for Boeing and Airbus themselves as China starts to manufacture its own single-aisle planes.

### Sales, orders and backlog

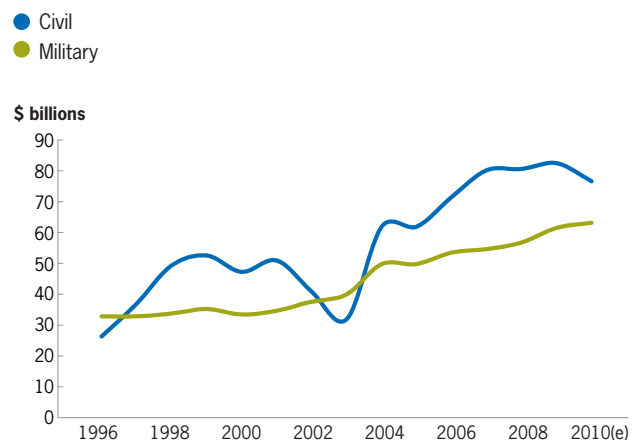
Despite poor economic news, U.S. aerospace industry sales grew 4% in 2009 to \$214.1 billion, according to AIA data, as firms benefited from servicing the large backlogs built up during the boom and from the cautious approach to capacity increases over that period. However, new orders declined for a second year, dropping by one-third due to declines in airline traffic and financing concerns. As a result, backlog fell for the first time since 2003 (by 11.5%), although it is still at levels that were considered record highs prior to 2007.

### Aerospace backlog, orders and shipments



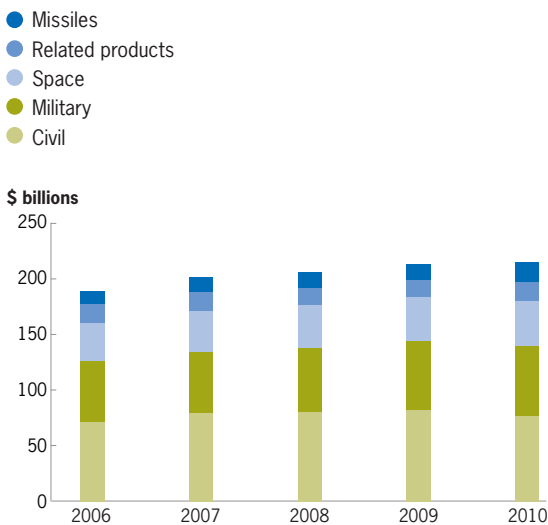
Sources: U.S. Census Bureau, "Manufacturers' Shipments, Inventories, and Orders," and AIA estimates

### Aerospace shipments



Source: Aerospace Industries Association (AIA)

### Aerospace industry sales by segment

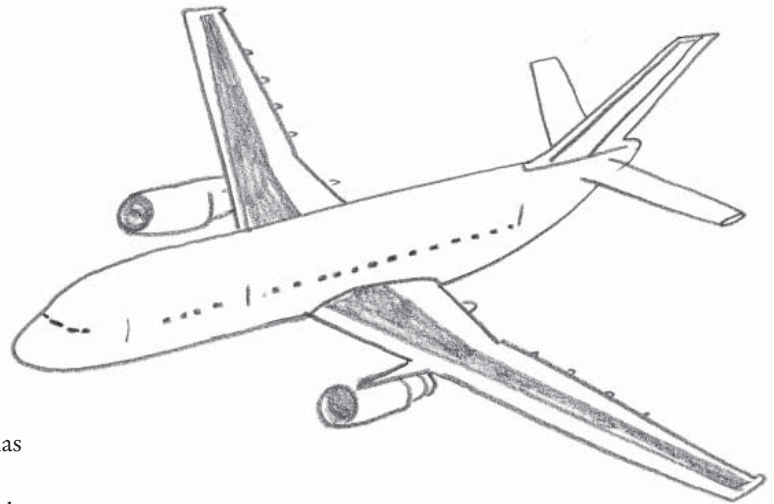


Source: Aerospace Industries Association (AIA)

Commercial and military aircraft sales rose, with both segments showing modest increases in 2009. Growth in large commercial aircraft (LCA) buoyed the 2.4% increase to \$82.5 billion in the civil market (prior-year levels had been depressed by work stoppages at Boeing), while military sales grew more than 8% to \$61.7 billion with increased purchases of fighters, rotorcraft and transports. Missile systems rose 11% to \$14.8 billion, and space systems grew by 4.1% to \$40.4 billion. Business jets were the hardest hit, with the segment suffering significant declines. Employment in aerospace production fell 4% in the first three quarters of 2009, compared with a decline of 12% across U.S. manufacturing as a whole over the same period.

Aerospace sales are forecast by the AIA to remain flat in 2010. Civil aircraft sales are forecasted to decline 7% due to a weak global economic recovery and slower LCA, regional and business jet sales. Spending on military aircraft, meanwhile, is expected to improve by 2.6% due to ramping up of the Joint Strike Fighter and increases in demand for unmanned systems. Sales of missile systems are expected to rise 12.8%, buoyed by international markets.

“Despite the economic gloom, aerospace industry sales grew 4% in 2009.”



### Commercial outlook

Over the past 20 years, the commercial aircraft industry has experienced several economic downturns yet grew by an average of 5% per year. A similar growth trend is expected for the coming 20 years, fueled by continued increases in demand for flight among emerging economies, lower fares and a wider range of destinations. Air cargo traffic is also expected to grow an average of 5% per year, driven by rising world gross domestic product (GDP), continued globalization of manufacturing and reliance on rapid delivery.

Although Boeing and Airbus both believe the fleet size will double over the next 20 years, there are dissenting opinions regarding composition. These differences reflect the markets in which they themselves are based. Boeing expects customers will demand direct access to a wider range of destinations and that smaller, economical, single- and twin-aisle airplanes will account for 90% (by value) of new deliveries (per the U.S. model). Very large aircraft (VLA) will only account for less than 7% (by value) of new deliveries over the next 20 years, according to Boeing's outlook. Airbus, on the other hand, expects international long-haul demand will continue to increase (growth of 33% over the next 20 years) due to more and bigger mega-cities, high growth between mega-cities and congested mega-city airports. Airbus believes VLAs will be important in managing increased travel and congestion especially within the emerging Asia-Pacific region, and that VLAs will comprise 19% (by value) of new deliveries.

The Asia-Pacific region will become increasingly important and Boeing expects the region to be the largest market for new planes, accounting for 35% of purchases (by value) over the next 20 years — almost tripling its fleet over the period. Boeing expects that in less than 10 years, Asia Pacific will become the largest air travel market in the world, and that by 2028 it will account for 41% of air travel compared with 32% today. This poses serious concerns for U.S. aircraft component makers, as manufacturing operations may shift to China and other Asia-Pacific countries (such as India) to satisfy offset requirements. Airbus delivered the first planes assembled in its China factory in 2009, and orders are expected to ramp up steadily.

State-owned aerospace business Commercial Aircraft Corporation of China (COMAC) may also pose a long-term challenge to the Boeing/Airbus duopoly. COMAC is developing the ARJ21-700, a 90-seat regional jet, for late 2010 delivery to capitalize on increased regional service within China. The C919, a larger 168-passenger single-aisle jet set for 2016 delivery, is also in development, which Aviation Industries Corporation of China (AVIC) estimates will account for over three-quarters of single-aisle jet deliveries within China over the coming 20 years.

#### Sources:

Boeing "Current Market Outlook 2009–2028"

Airbus "Global Market Forecast 2009–2028"

*China Daily*, "Big surge in air traffic forecast in next two decades," Sept. 24, 2009

# Defense budget outlook for 2011 and beyond: Inherent budget pressures reprioritize procurement spending



**Lou Crenshaw**  
Defense and Intelligence  
Grant Thornton LLP

Lou Crenshaw, Vice Admiral U.S. Navy (Ret.), is executive director of the Defense and Intelligence Sector of Grant Thornton's Global Public Sector Group. Prior to joining Grant Thornton, he was the senior resource and requirements manager for the U.S. Navy, where he was responsible for overseeing an annual budget of \$130 billion.

After a sustained period of sizable increases, growth in the DoD budget is expected to slow considerably starting in 2011. Defense discretionary spending is likely to be constrained by built-in budget pressures, both external and internal to the department. Mandatory non-military spending (such as Medicare, Medicaid and Social Security) as well as new administration initiatives, will limit the total amount of budgetary authority given to DoD by the Office of Management and Budget (OMB). Internal to the DoD, three principal factors will present continued budgetary challenges. First, the QDR will refocus the department's spending priorities, adding additional requirements as well as questioning current investment strategies. Second, continued cost growth above inflation, particularly in acquisition, manpower and maintenance accounts, will continue to erode DoD discretionary spending. Finally, overseas contingency operations (OCO) will continue to age equipment, demand new equipment and stress operations accounts. Winners and losers

will emerge as procurement spending is prioritized toward the most critical areas, including nontraditional warfare; high-demand, low-density assets and cyber warfare; and away from large hardware programs associated with traditional operations. Recent legislation and policy changes will also affect the defense contractor community.

## Federal budget realities

Increases in mandatory spending such as Medicare, Medicaid, Social Security, federal retirements and debt service will limit funding available for the discretionary budget (including defense). Mandatory spending is projected to rise 11% from \$2.3 trillion to \$3.9 trillion between 2011 and 2015, increasing from 62% to 69% of the federal budget. As a result, the discretionary budget is expected to remain flat at \$1.4 trillion, compared with the 30% increase of the previous five years. Various benchmarks have been used as a measure of how much the DoD should receive from the OMB. Traditionally, the DoD has been roughly 50% of total federal discretionary spending. Another useful benchmark has been defense spending as a percentage of GDP. The Congressional Budget Office's (CBO) projections are for defense spending to decrease from 3.2% of GDP in 2015 to 2.6% of GDP in 2028.

Given the current economic climate and security posture, the baseline defense budget is expected to increase just over 1% per year to \$743 billion by 2015, placing tremendous pressure on procurement spending. This projection is in stark contrast to the previous five years, in which the defense budget increased over 6% per year. While there is pressure from Congress and others to eliminate OCO (supplemental) funding, operations in Afghanistan will likely necessitate some form of supplemental funding into the foreseeable future, thereby reducing (but not eliminating) some pressure on the baseline budget.

### Shift in spending focus

The QDR will have a significant impact on the DoD investment portfolio, including the restructuring of research and development funds by investing more in high-demand, low-density technology; strengthening cyber war capabilities; emphasizing unmanned vehicles and increasing resources focused on “soft power” (e.g., political measures, foreign policy, exportation of cultural values).

The R&D investment strategy plans to shift focus away from large conventional warfare equipment such as large ships, high-tech fighter aircraft and heavy motorized vehicles, and funnel resources toward unmanned aircraft and mine-resistant, light-armored vehicles as well as smaller, more agile ships. Troubled acquisition programs outside this strategy have already been terminated in the 2010 budget, including VH-71, T-SAT, FCS manned ground vehicles, ABL, MKV, F22 and CSAR-X.

Additional resources are also expected to be allocated towards complex high-demand, low-density assets used in the intelligence, surveillance and reconnaissance (ISR) missions. These include aerial drones, helicopters and special operations transport, as well as other critical enablers that are in high demand and low supply.

Cyber warfare is an area in which the QDR suggests significant investment. The DoD has concerns around the level of preparedness for a serious cyber attack and is expected to invest to strengthen this competency. Evidence suggests that Pentagon computers are increasingly being probed and scanned and the frequency and sophistication of attacks are rising.

The QDR highlights the need to integrate soft-power methods used to influence or persuade another party to cooperate or adopt similar values. Combining soft-power and hard-power strategies is intended to allow for a quicker exit from conflicts.

The overall change in philosophy highlights a shift away from traditional warfare, especially in fighting near-simultaneous, large-scale conflicts, to being engaged globally throughout the spectrum of conflict.

### Continued cost growth

Spending to support operations and maintenance (O&M) programs is also likely to increase as weapons systems continue to age and the strain of continuous use introduces inaccuracies in the costing models traditionally used by DoD to project costs. Additionally, new-generation weapons will be more expensive to operate and maintain due to increased complexity. These factors combine to cause increases in the O&M accounts far above the expected 1% growth in the DoD budget.

In addition, supplemental OCO costs of roughly \$130 billion to \$150 billion (slightly less than the \$155 billion spent in 2009) will be transitioned into the baseline defense budget for the first time since 2002. Despite the drawdown of troops in Iraq, the United States is unlikely to receive the expected peace dividend due to an increased presence in Afghanistan. Although troop levels will be far lower, logistics-related spending is expected to increase due to that country’s lack of infrastructure and abundance of mountainous geography.

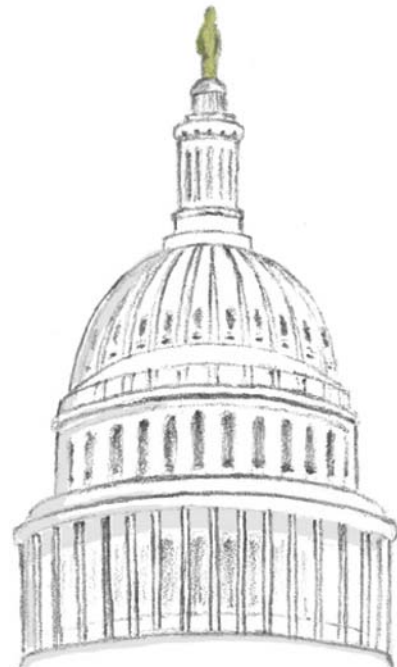
Adding to this pressure are increasing manpower costs. These are driven by both larger personnel bills associated with increased end-strength numbers requested by the armed services, and the fact that troops are expected to experience real increases in pay and benefits above inflation indices. Since 2003, military pay increases have been based on the annual Bureau of Labor Statistics’ employment cost index for wages and salaries in private industry, which is expected to exceed the GDP deflator by an average of 1.4% from 2011 to 2015. Out-of-proportion health care cost increases and additional personnel programs to address issues related to long-term conflict will only contribute to the cost of the department’s number-one asset: people.

### Impact of recent policy changes and legislation

In addition to the aforementioned spending cuts identified by the QDR, additional savings are envisioned by the newly passed Weapon Systems Acquisition Reform Act of 2009. This legislation was created to reform the way the Pentagon contracts and purchases major weapons systems. The reforms are expected to save millions, perhaps even billions, of dollars over the next decade. However, certain provisions related to conflicts of interest are likely to have a significant impact on defense contractors, particularly large vendors that not only provide hardware, but also provide systems-integration functions. Contractors will undoubtedly be considering divestiture of those businesses that cause conflicts as they seek to protect revenue streams from the more lucrative sale of hardware. Additional legislation and administration policy aim to reduce DoD costs by in-sourcing services and functions that were outsourced to the commercial sector over the past decade. As a result of these initiatives, the DoD will be hiring tens of thousands of federal employees to fill new positions and those formerly held by defense contractors. Companies providing these services can expect reduced revenues and loss of personnel to the federal sector as these policies are implemented.

Ultimately, O&M, R&D and manpower increases combined with a flat defense budget will place significant pressure on procurement spending, forcing the DoD to cut nonessential acquisition programs and focus attention on key areas. Contractors therefore will continue to redirect their attention to areas prioritized in the defense budget.

“The baseline defense budget is expected to increase just over 1% per year from 2011 to 2015. This is in stark contrast to the 6% annual increases of the past five years.”



# European update: The view from across the pond



**Ian Wilson**  
Partner, Corporate Finance  
Grant Thornton UK LLP

Ian Wilson leads the Aerospace and Defense Corporate Finance Group in the UK member firm of Grant Thornton International Ltd where he advises European aerospace and defense companies on M&A transactions.

2009 will be remembered as a very difficult year for European commercial aerospace suppliers. Although order books remained at record levels throughout 2009, airlines faced deteriorating passenger and freight traffic, which, combined with weak credit markets, created significant uncertainty about the robustness of delivery schedules. This caused primes to reduce inventories of components and subsystems, thereby placing the entire supply chain in survival mode and affecting those at the bottom hardest.

For several months during the first half of 2009, aerospace component suppliers were forced to slash their costs as revenues virtually dried up. Those suppliers that had expanded their workforces in anticipation of the launch of the next-generation A380 and Boeing 787 Dreamliner were further affected by significant delays to both programs. Many companies survived merely because they were able to draw on retained cash flow from previous buoyant years. The less fortunate, struggling under mountains of buyout debt, were forced to seek additional sponsor equity injections and pay substantial fees in return for covenant waivers and margin resets.

However, it was not all doom and gloom in 2009. Many European companies with significant exposure to the defense sector performed well. The best placed included suppliers of urgent operational requirement equipment to military personnel in Iraq and Afghanistan, companies supplying systems used in homeland security applications, and suppliers to the U.S. DoD, particularly UK companies — the largest foreign suppliers of equipment to the U.S. military. Besides large players such as BAE Systems, Cobham, Ultra and QinetiQ, there are many niche operators, including WFEL (tactical bridging systems) and Hortsman Defense Systems (suspension for armored vehicles) that continue to prosper.

“Mid-tier defense contractors continue to be potentially attractive targets for European players seeking to expand their U.S. footprint.”

Going into 2010, we see a mixed picture. Due to the continuing woes of the airline sector, we believe the risk of slippage in aircraft delivery schedules is significant, and we expect further Tier 2 and 3 casualties before the anticipated recovery in 2011 or 2012. With major procurement reviews in both the United States and the UK in 2010 against a backdrop of huge budget deficits, we expect the larger programs to come under scrutiny. However, given the lead times involved, we do not foresee a meaningful reduction in spending until at least 2011. In addition, recent indications of new funding commitments by participating nations suggest that the A400M is likely to go ahead. Over the longer term, we believe that the fundamentals remain healthy for the European aerospace and defense sector, although we expect further dislocation, creating opportunities for consolidation by the stronger participants. We note that, as the second-largest aerospace and defense sector worldwide, the UK is well-positioned to take advantage of a gradual recovery.

In common with most other sectors in 2009, the aerospace and defense M&A market was relatively quiet. For many companies, a global credit famine, combined with an internal focus on cost reductions and working capital control, forced acquisition plans firmly onto the back burner. Looking forward, we are not expecting any mega-deals, with 2010 being a more typical year, bringing a combination of midsized (less than \$500 million) strategic acquisitions, a number of smaller (sub-\$100 million) private equity exits and several transactions involving distressed companies. We may also see a continuation of mergers among state-controlled entities in Russia and China and modest reshaping of the French defense industry, with several potential asset swaps already mooted. A weak dollar continues to make mid-tier U.S. defense contractors potentially attractive targets for European defense players seeking to expand their U.S. footprint.



# Compliance corner: Increased compliance requirements affect suppliers to government contractors



**Norm Duquette**  
Consultant  
Grant Thornton LLP

Norm Duquette is a government contractor consultant with Grant Thornton where he advises clients on contract administration, compliance issues and government regulations. His previous experience includes working at the Defense Contractor Audit Agency.

Regulations introduced by the Federal Acquisition Regulation Council (through FAR 52.203-13, effective December 2008) have far-reaching consequences, not only for government contractors, but also for their subcontractors. The new regulations apply to all contracts and subcontracts that have a value in excess of \$5 million and a performance period of more than 120 days, and so apply to much of the U.S. government's supply chain. The scope of regulation has been extended considerably beyond ethics programs and employee training to include, for example: development of a formal compliance internal control system and audits of those controls, reporting on failures to comply with the ethics programs, and responsibility for failing to detect improper conduct. A recent survey suggests only 50% of government contractors actively comply with auditing requirements of the regulations, and we suspect compliance among subcontractors, suppliers and vendors is even less. Penalties for noncompliance can be severe, ranging from prosecution, fines or imprisonment to termination of the contract and suspension or debarment from future contracts.

While most large contractors have had a code of ethics, conduct and training in place for many years, the same is not true for subcontractors and suppliers, particularly with regard to the new minimum requirements relating to internal controls. The regulations not only require internal or external audits of the compliance system, but also demand companies make formal disclosures to the government whenever there is credible evidence that a violation of the law has occurred. The reach of regulation has been extended considerably, and parties are no longer simply responsible for their conduct but also for failing to prevent, detect or report improper conduct.

Specifically, contractors, subcontractors and suppliers must now have a written code of business ethics and conduct developed within 30 days of being awarded a government contract; awareness programs and internal control systems must be implemented within 90 days. Contractors must also periodically communicate standards and procedures through comprehensive training programs and must regularly monitor the effectiveness of internal control programs. FAR 52.203-13 includes seven minimum standards that internal control systems must meet. These can be summarized as:

1. Adequate resources committed to ensure effectiveness.
2. Excluding principals who have violated compliance procedures.
3. Periodic reviews of business practices, policies, procedures, conduct and internal controls, including:
  - a. monitoring and auditing to detect criminal conduct;
  - b. evaluating the effectiveness of ethics, compliance and internal controls; and
  - c. assessing the risk of criminal conduct and modifying the program appropriately.
4. A hotline (or similar method allowing anonymity) to report improper conduct.

5. Disciplinary action for engaging in, or failing to take reasonable steps to prevent or detect, improper conduct.
6. Timely disclosure, in writing, to the agency office of the inspector general when there is credible evidence of violations by the contractor or subcontractor.
7. Full cooperation with government agencies responsible for audits, investigations or corrective actions.

Exclusions from the internal control system requirements in the new regulations are minimal. That portion of the regulation does not apply if the contractor or subcontractor is representing itself as a small business or if the contract or subcontract is for a commercial item as defined in part 2 of the Federal Acquisition Regulations.

The minimum standards require internal or external audits of the compliance system and that the company must make formal disclosure to the government whenever there is credible evidence that a violation of law has occurred. Audits therefore should be performed by people with necessary knowledge of federal procurement rules and regulations, since inexperienced auditors may overreact to certain identified situations and issue reports that could unnecessarily trigger disclosure requirements.

The new comprehensive formalized ethics and compliance programs add a significant new risk and expense for government contractors and their subcontractors and suppliers. Because these requirements are mandatory in most situations, the risk and cost cannot be avoided for companies that consider the government to be a key customer.

“The scope of regulation has been extended considerably and has far-reaching consequences, not only for government contractors, but also for their subcontractors and suppliers.”



# Lessons from the automotive supply chain: Surviving a downturn



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There have been numerous comparisons between the automotive and aerospace industries, and an October 2009 article from *Aviation Week* even asked, "Could Wichita become the next Detroit?" Many aircraft suppliers are learning from the automotive industry and some have recruited executives from the sector. Given the recent turmoil and challenges faced by the cyclicality of the automotive industry and its participants, the actions taken may provide valuable insights for the aerospace industry, which has historically also endured its share of volatility.



During the past 18 months, the automotive industry experienced one of the worst periods in its history. All industry participants, from original equipment manufacturers (OEMs) and suppliers, to automotive dealers, were affected. Suppliers experienced significant volume declines, immense liquidity constraints and a severe tightening of the credit markets. Few companies were adequately prepared, and all were required to adapt quickly to the new economic conditions and take significant actions to remain viable. This time period can truly be characterized as a fight for survival in which there were many casualties.

While the extraordinary government aid at the OEM level clearly helped to stabilize the industry, we have found that supplier survival came down to the following key factors.

## **Understanding customers, programs and parts**

We are constantly surprised by how many suppliers believe they understand the profit generated on specific parts, programs and customers. However, after more thorough analysis, these gut feelings are often proven inaccurate. During a downturn, having a good understanding of where the profit is (and is not) can be critical to survival. In one example, we evaluated the standard cost and quote model for a \$100 million supplier, noting the pricing model was omitting 20% of true cost, and that management was basing pricing and other critical strategic decisions on this flawed model.

As a supplier, it is also critical to understand which programs your parts ultimately end up on and which programs may be susceptible to market conditions or cancellation by the OEMs. Automotive suppliers that sold parts to the SUV and truck markets were more severely affected during the economic downturn than those that supplied more fuel-efficient vehicles.

### Managing and optimizing the cost structure

The best suppliers found creative ways to cut costs while mitigating negative impacts on the company's longer-term prospects. Many suppliers were careful not to make cuts that affect the customer (e.g., sacrificing quality and delivery). Suppliers implemented numerous actions, including temporary wage/benefit reductions, in-sourcing of certain processing or services, improving asset utilization, and facility consolidation.

While there was an obvious focus on reducing costs to conserve cash and enhance liquidity, we found the prosperous suppliers took this concept a step further by preparing an integrated cash flow/liquidity forecast model. This forecast model contained several key concepts, including (a) understanding product linkages to OEM programs, (b) sensitizing industry/OEM volumes and (c) flexing various cost structures. Suppliers with a deep understanding of their cost structure that were able to perform detailed financial planning were better equipped to manage through the downturn but more importantly, were proactive in developing plans and providing confidence to other stakeholders (lenders, customers, etc.) during the process.

### Supply risk management

We believe that suppliers at all levels of the aerospace industry will receive increasing pressure from upstream customers (including the DoD) to proactively manage their supply base. Further, from a supplier standpoint, there will likely be more scrutiny on both the financial and operational metrics of the supplier's business. An October 2008 Government Accounting Office report indicated that "[the] DoD expects prime contractors to maintain internal corporate metrics to evaluate the health and performance of their subcontractors." Further, Brett Lambert, the DoD's director of industrial policy, noted, "I'm worried about the second-, third- and fourth-tier vendors, the people who make the nozzles ... that's where we're going to focus a lot of energy in the next few years."

Ford Motor Company utilizes a Web-based system called Vontik ([www.vontik.com](http://www.vontik.com)) as its global solution to gather more intelligence on its supply base, even going so far as to require suppliers to enter data prior to being awarded any new sourcing. It will be critical to ensure that suppliers at all levels are taking a proactive role in managing their own supply base, which includes understanding the extent of sole-source relationships, suppliers' geographic footprints, contingency planning, etc. Providing comfort that there is a sound supplier management system in place might well become a criterion of future sourcing decisions.

**“Suppliers are coming under increasing pressure to proactively manage their supply base. Greater understanding of program, supplier and customer interdependency, and the financial position of suppliers can be expected.”**

### **Adapting (not abandoning) a longer-term business strategy**

To prepare for a potential, or cope with an actual, down cycle, it is more critical than ever to understand the strategic direction of your company and how it aligns with the future marketplace. Making short-term decisions that are inconsistent with long-term strategy can be disastrous. Honest assessments of core competencies, manufacturing footprints, industry trends and technology shifts can provide valuable insight into the future direction of the company and its ability to be competitive. Also, it is crucial to maintain a convincing, viable, long-term plan; otherwise, customers may not be willing to source the company new work.

Being in the midst of a downturn represents an opportunity to re-evaluate the whole business model to refine the focus on delivering value. This evaluation could lead to the realization that a merger/acquisition is the preferred method for long-term growth and survival. Also, certain elements of the business that are without strategic or core value might present an opportunity for carve-out or liquidation.

### **Managing debt and liquidity**

High debt levels prior to the automotive crisis caused many suppliers to end up insolvent. The suppliers that survived were able to maximize cash flows from working capital, as banks were not increasing exposure to the sector and in fact were more prone to exiting credits. Further, surviving suppliers were more sophisticated in terms of preparing flexible financial forecast models and reducing cash outflows. This allowed these suppliers to understand and plan for potential upcoming issues with their debt, whether it was the specific amount and timing of repayment, covenants or liquidity constraints.

While there now appears to be some loosening of credit and more willingness on part of lenders to work with troubled credits, the markets generally are still tight, and borrowing costs remain high, especially for lower tier suppliers. Ironically, many automotive suppliers are now experiencing liquidity constraints trying to fund the working capital needs and requisite capital/tooling expenditures as the industry slowly begins to recover and volumes increase.

In summary, those suppliers that were able to demonstrate the above factors were more likely and better positioned to survive the recent automotive downturn. Automotive suppliers actually are emerging from the downturn better positioned with lower cost structures, improved balance sheets, more reliable supply chains, fewer competitors and an enhanced mix of product offerings. While these principles have proven valuable during the crisis in the automotive industry, they can be applied to aerospace suppliers, as well, and are useful even during times of prosperity. Suppliers that demonstrate viability through the aforementioned key factors can make it clear to customers and other key constituents that they are well-positioned for long-term success and, as such, are more likely to be chosen as winners in the long-term battle for survival.

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