



Capstone Partners

MAPPING, MODELING & SIMULATION

Q2 2016

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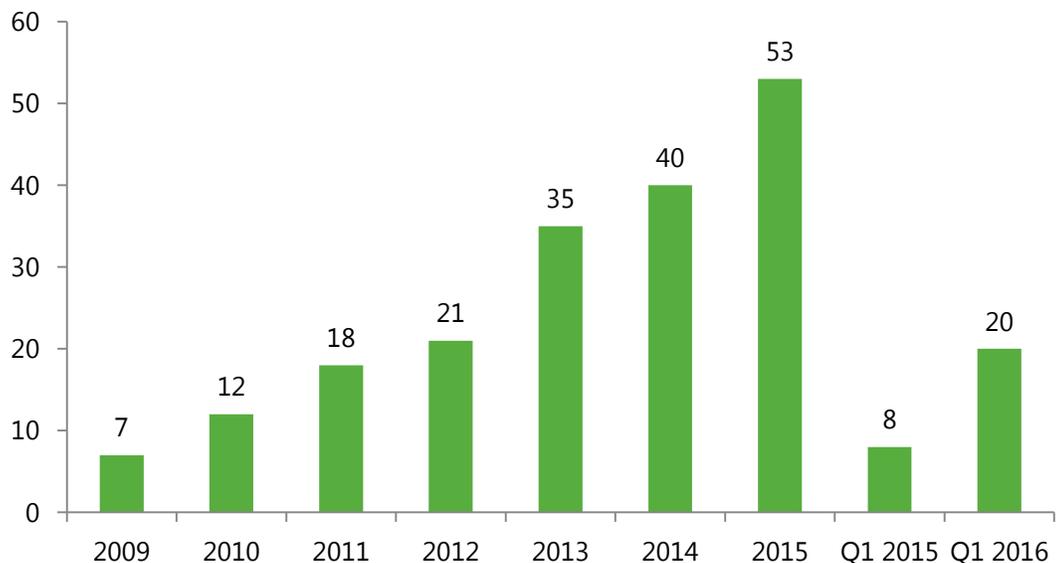
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MERGER & ACQUISITION ACTIVITY

Merger and acquisition activity in the Mapping, Modeling & Simulation (MM&S) industry saw record levels in 2015 with 53 announced transactions for the year, a 32.5% increase in volume over 2014. Strong growth in the industry is consistent with the previous three years, as deal volume grew by an average of 36.2% from 2012 to 2015. To date, 20 deals have been announced in Q1 2016, compared to only eight in Q1 2015. Heightened deal volume is expected to continue with 2016 positioned as another record year for M&A activity in the MM&S industry.

Interest from strategic buyers has been robust through Q2 2016, especially from large public acquirers. Thus far, 40% of all strategic acquisitions in 2016 have been made by public companies including notable transactions by Siemens, Garmin, Continental, Acuity Brands and Twenty-First Century Fox. Similarly, 2015 saw acquisitions by Microsoft, Apple, Daimler, CBRE and Motorola, with public strategic acquirers accounting for 30.2% of all acquisitions. Interest from private equity groups also remains high as buyers look to capitalize on a growing market for MM&S technology. The significant cost benefits, training quality improvements and personalization that this type of technology offers makes it potentially disruptive to the government & defense, medical, education, manufacturing and consumer sectors. For this reason, the industry has seen sustained interest from both strategic and financial buyers which should continue in the long-term.

M&A Activity: Mapping, Modeling & Simulation



Source: Capital IQ; Capstone Partners LLC Research

INDUSTRY OUTLOOK AND DRIVERS

The MM&S industry has seen significant growth in recent years with government outlays continuing to be the primary source of industry revenue. Over the next decade, the global MM&S market, valued at \$10.4 billion in 2015, is projected to grow at a CAGR of 4.2% to \$15.8 billion. During that timeframe, the US is expected to spend a cumulative \$48.9 billion on MM&S technology. Applications of MM&S technology have been utilized beyond the defense sector in various consumer sectors on a limited basis due to their ability to help reduce costs, improve the quality of training and be repurposed for other sectors. As a natural extension of how we design products, create processes and train for skills, MM&S technology is positioned to help revolutionize major industries such as health, automotive and manufacturing. However, in the short-term, defense spending continues to be the leading source of industry revenue. Within the defense industry, flight simulators account for the largest segment of revenue, followed by maritime and combat simulators. Outlined below are a number of trends that influence growth in the MM&S industry and will drive future M&A activity.

- ▶ **High levels of government spending supports industry growth –** Government top line expenditures by the DoD will increase 4.5% to \$585 billion in 2016, compared to \$560 billion in 2015. Of that amount, \$534 billion was appropriated for the DoD's base budget, while the remaining \$51 billion will be used to pay for overseas contingency operations (OCO) in Afghanistan, Iraq and Syria. The DoD's Future Years Defense Program (FYDP) through 2020, calls for the base budget to remain elevated at \$534 billion, despite plans to reduce the number of active-duty military personnel. Expenditures for research, development, test and evaluation (RDT&E) in technology and weapon systems accounts for 13.1% of the base budget for 2016, or approximately \$70 billion. With a significant amount of the defense budget dedicated to RDT&E, MM&S companies will likely see revenue growth and strong fundamentals, making them attractive acquisition targets.
- ▶ **Modernization improves the quantity of MM&S applications –** Recent advancements have modernized MM&S technology so that it can better meet the needs of defense clients. Big data analytics, the cloud and various hardware improvements have made it possible to provide sophisticated models that accurately represent real-world situations. The availability of advanced technology has enabled MM&S companies to expand into the health, automotive, manufacturing and consumer verticals. MM&S companies with modernized technology applications will see the most interest from strategic and private equity buyers in 2016.
- ▶ **Technology provides significant cost savings –** The higher adoption of MM&S technology for virtual training, which is in lieu of live training, has provided significant growth in this industry. Both the military and companies have drastically reduced their need for munitions, operations, maintenance, salaries and damages by using MM&S technology. MM&S companies that are best in demonstrating the cost benefits of their offering will have the most compelling value propositions in the current environment.

NOTABLE RECENT M&A TRANSACTIONS

Several notable transactions have already been completed or announced in the Mapping, Modeling & Simulation industry through Q2 2016. Selected transactions are outlined below, followed by a more comprehensive list on the following table.

- ▶ **Havok acquired by Microsoft (October 2015)** – Telekinesys Research (d.b.a. Havok), a leading developer of 3D tools for video game creators, was recently acquired by Microsoft for an undisclosed amount. Havok offers products that enable real-time 3D simulation of physics, collisions, debris and clothing. While Havok’s technology will still be available for licensing, Microsoft will combine it with their cloud computing platform, Azure, to create enhanced tools and destruction engines for developers, such as those used in the game “Crackdown 3.” Combining Azure and Havok will enable gamers to fully interact with elements of their environment in ways that replicate real-life situations. This level of sophistication has never been seen before in gaming and exemplifies the growing capabilities of simulation technology. In a blog post about the transaction, Microsoft commented, “Microsoft’s acquisition of Havok continues our tradition of empowering developers by providing them with the tools to unleash their creativity to the world. We will continue to innovate for the benefit of development partners. Part of this innovation will include building the most complete cloud service, which we’ve just started to show through games like ‘Crackdown 3.’”
- ▶ **Quantum3D acquired by HAVELSAN (April 2015)** – Quantum3D, a developer of visual computing systems for government applications, has recently been acquired by the Turkey-based HAVELSAN, a global software and systems company specializing in defense and IT-related markets. Quantum3D offers Mantis for real-time visual simulation, Independence IDX for image generation and GeoScapeSE for visual databases. Combined, the products enable users to simulate flights to thousands of destinations around the globe. The deal gives HAVELSAN greater access to the US market and will enhance their training offerings. Pratih Shah, President of Quantum3D, commented, “Merging our IG solutions and database capabilities with HAVELSAN will accelerate the development and enhancement of our already leading class solutions and enable us to provide greater support, service and new products to our customers.”

CAPSTONE FEATURED ON M&A PANEL

Ted Polk, Managing Director and Head of Capstone’s Mapping, Modeling & Simulation practice, was featured as an expert panelist on middle market M&A in March 2016. The event, held at the Taft Museum in Cincinnati Ohio, included Senator Rob Portman of Ohio and George Molinsky of the Taft law firm. Speech topics covered navigating the current regulatory environment to grow businesses, make investments and create jobs. Ted was invited to lead a discussion on the middle market M&A environment by sharing experiences from his 20 years in the industry advising government and defense clients.

MAPPING, MODELING & SIMULATION: SELECT M&A TRANSACTIONS

Ann. Date	Target	Acquirer	Target Business Description	Enterprise Value (mm)	EV / LTM Revenue	LTM EBITDA
03/23/16	Forming Technologies	Hexagon	Develops computer aided engineering software for the simulation and design of sheet metal components.	-	-	-
03/11/16	ArcScan	SG Spirit Gold	Develops ultrasound visualization technology for ocular surgery.	-	-	-
03/07/16	Archiact Interactive	G-Mei Network Technology	Develops VR solutions for architecture, medicine, fashion, education, automotive and sports markets.	\$24.0	-	-
03/03/16	ASC's Hi-Res 3D Flash LIDAR Bus.	Continental	Provides sensor technology for machine vision as well as environmental mapping functions in vehicles.	-	-	-
02/22/16	Tekni Consulting	Applied Software	Provides 3D design software for manufacturing.	-	-	-
02/18/16	Sigma Space	Hexagon	Develops remote sensing instruments to measure clouds, aerosols, wind and trace gases.	-	-	-
02/17/16	GXMG and I3T	Civic Resource	Develops software-related augmented reality applications.	-	-	-
02/11/16	DeLorme Publishing	Garmin	Provides GPS software, hardware and Internet mapping applications.	-	-	-
02/08/16	Mineset	ESI Group	Designs visual analytics that integrate with machine-learning technology.	-	-	-
01/28/16	Rowekamp	GIS Workshop	Develops geographic information systems and software solutions.	-	-	-
01/25/16	CD-adapco	Siemens	Provides engineering simulation software.	\$970.0	4.9x	-
01/15/16	Spire's Sun Simulator Tech.	Eternal Sun	Provides Sun simulator technology.	-	-	-
01/12/16	GeoSolve	Geo-Comm	Offers geographic information system solutions for infrastructure and emergency management.	-	-	-
01/07/16	Advanced Technology	EBA Engineering	Provides geographic information system consulting, software development and support services.	-	-	-
01/05/16	GeoMetri	Acuity Brands	Provides software and services for mapping, navigation and analytics.	-	-	-
01/05/16	Osterhout	Twenty-First Century Fox	Develops electro-optics and sensor-based technologies including 3D and augmented reality eyewear.	-	-	-
12/21/15	TeraLogics	Cubic	Offers Unified Video, a streaming platform that integrates geospatial data into live videos.	\$39.0	-	-
12/02/15	OnTheGo Platforms	Atheer	Provides gesture-recognition software for smart glasses and other mobile devices.	-	-	-
11/23/15	iMapData	PlanetRisk	Develops web-based data collection, information visualization and geospatial analysis solutions.	-	-	-
11/15/15	LENSAR	ALPHAEON	Develops femtosecond laser, imaging and 3D modeling for refractive cataract surgery.	\$59.0	-	-
11/13/15	Coherix	Dandong Xintai Electric	Delivers 3D measurement and inspection solutions for the automotive and semiconductor industries.	-	-	-

MAPPING, MODELING & SIMULATION: SELECT M&A TRANSACTIONS (CONTINUED)

Ann. Date	Target	Acquirer	Target Business Description	Enterprise Value (mm)	EV / LTM Revenue	LTM EBITDA
11/13/15	Eagle Scout Imaging	Deveron Resources	Offers unmanned aerial systems to collect imaging data of crop acreage.	-	-	-
10/29/15	Binocular	Blippar.Com	Develops virtual reality software.	-	-	-
10/23/15	Sealund & Associates	TiER1 Performance	Develops eLearning and simulation software solutions.	-	-	-
10/21/15	ESP Vision	Vectorworks	Offers lighting previsualization software.	-	-	-
10/19/15	geoLOGIC	BV Investment	Offers geoSCOUT, a software to search, view and map landscapes.	-	-	-
10/15/15	Spectraseis	Engineering Seismology Canada	Offers micro-seismic fracture monitoring and simulation evaluation services.	-	-	-
10/02/15	Havok	Microsoft	Develops a physics engine for game developers.	-	-	-
09/29/15	AQUA TERRA	Re/Spec	Offers environmental modeling for the analysis of pollution and water resource management in the US.	-	-	-
09/17/15	Mapsense	Apple	Provides a high-speed engine that creates data-driven map visualizations.	-	-	-
09/08/15	Weidlinger Associates	Thornton Tomasetti	Develops software for modeling the response of structures to blast and impact loads.	-	-	-
09/01/15	Carolina Mapping	Independent Mapping	Offers photographic and photogrammetric mapping services.	-	-	-
08/12/15	Zuercher	TriTech	Develops software for law enforcement used in dispatch, integrated mapping and reporting.	-	-	-
08/11/15	Qualtest	NTS	Provides climactic and dynamic laboratory testing services to aerospace, defense and military industries.	-	-	-
08/03/15	Nokia HERE	Daimler, BMW & Audi	Provides maps and other location content for navigation.	\$3,069.3	2.9x	-
07/30/15	Webtech Wireless	BSM	Provides fleet management telematics, GPS and automatic vehicle location solutions worldwide.	\$20.9	1.0x	16.3x
07/16/15	M/A-COM	Autoliv	Develops GPS modules.	\$130.0	-	-
07/13/15	Inilex	Spireon	Provides intelligent telemetry solutions.	-	-	-
06/25/15	Zonar	Daimler Trucks	Develops electronic fleet inspection, tracking and operations solutions.	-	-	-
06/19/15	Accord	Aspen Avionics	Manufactures GPS/GPS WAAS solutions for avionics applications.	-	-	-
05/26/15	Qfinsoft	Aavid Thermalloy	Develops and markets simulation software packages.	-	-	-
04/28/15	Quantum3D	HAVELSAN	Develops simulation systems for flight and infantry training.	-	-	-

CAPSTONE PARTNERS: SELECTED RELEVANT TRANSACTIONS

Capstone Partners has represented numerous companies that operate in the Mapping, Modeling & Simulation industry and related areas of data visualization, data analytics and defense & security. These companies serve the needs of federal, state and local or foreign governments, as well as the needs of civilian and defense-related agencies. In advising our government contractor clients, we understand the nuances associated with sole-sourced, multi-year or subcontracted awards, the value of partnerships, GWACs, IDIQs and GSA schedules. We have completed transactions requiring complex CIFIUS filings, ITAR registrations and contract negotiations, and those involving classified information.

CONFIDENTIAL

corporate sale
(IN PROCESS)

**3D Training
Provider**

Capstone Partners LLC has been engaged by an award winning developer of customized simulation training solutions for Fortune 500 companies and the US Military. The Company provides advanced graphical user interface technology including software that enables programmers and developers to build high-fidelity graphics, 3D simulations and fully interactive controls. Using patented technology, the Company specializes in Virtual Maintenance Trainer technology, serving a variety of end markets including the US Military, Automotive and Health. The Company is seeking an investment partner to accelerate growth and leverage the Company's strong momentum.

Data Visualization

<p>CONFIDENTIAL</p> <p>Corporate Sale (IN PROCESS)</p> <p>Military Simulation Training Systems</p>	<p>WachsWater SERVICES</p> <p>has been acquired by</p> <p>pure TECHNOLOGIES</p>	<p>HDM</p> <p>has been acquired by</p> <p>THE FIRST AMERICAN CORPORATION</p>	<p>Autometric, Incorporated</p> <p>has been acquired by</p> <p>BOEING</p>	<p>ProLogic Incorporated</p> <p>has been acquired by</p> <p>Ultra ELECTRONICS</p>
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Data Analytics/Enterprise Software

<p>ON POINT TECHNOLOGY, INC.</p> <p>has been acquired by</p> <p>lcp Lakeshore Capital Partners</p>	<p>ASC ADVANCED SYSTEMS CONCEPTS</p> <p>has been acquired by</p> <p>help/systems a portfolio company of SUMMIT PARTNERS</p>	<p>cypress</p> <p>has been acquired by</p> <p>ASG Software Solutions</p>	<p>KIMIS SOFTWARE COMPANY</p> <p>has been acquired by</p> <p>SAP</p>	<p>ARCHON TECHNOLOGIES, INC.</p> <p>has been acquired by</p> <p>3M</p>
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Defense & Security

<p>CONFIDENTIAL</p> <p>Corporate Sale (IN PROCESS)</p> <p>Military Audio & Video Connectivity</p>	<p>Yardney TECHNICAL PRODUCTS, INC.</p> <p>has been acquired by</p> <p>OMG OM Group</p>	<p>TRITECH SOFTWARE SYSTEMS</p> <p>has been acquired by</p> <p>TRITECH SOFTWARE SYSTEMS</p>	<p>INTEGRATED BIOMETRIC TECHNOLOGY</p> <p>controlling interest has been acquired by</p> <p>L-1 Investment Partners, LLC</p>	<p>Command System, Inc.</p> <p>has been acquired by</p> <p>GENERAL DYNAMICS Strength On Your Side®</p>
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THE MAPPING, MODELING & SIMULATION TEAM



Ted Polk, Managing Director

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Ted is Managing Director and Head of the Central Region at Capstone, based out of Chicago. Prior to Capstone, Ted ran the corporate finance practice in the Central region for Morgan Stanley Smith Barney's Capital Strategies Group and its predecessor, Citi Capital Strategies. He has over 20 years of experience, having completed strategic sale and recapitalization transactions across a variety of industries. Ted is a frequent public speaker on the topic of business exits and recapitalizations of privately owned businesses. In 2008, Ted was recognized by The M&A Advisor for the Cross-Border Middle-Market Deal of the Year. In 2009, another of his transactions was recognized as the Middle-Market M&A Financing Deal of the Year and in 2011 he was recognized for lead-managing the Middle-Market Deal of the Year. Previously, Mr. Polk worked at Valuemetrics, Inc. and in the Corporate Banking Group at The Bank of New York. Ted received his BSBA degree from Georgetown University and MBA from the University of Chicago. He is a Chartered Financial Analyst (CFA), a Series 7 and 63 Registered Securities Representative and a Series 24 Registered Securities Principal.



Lisa Tolliver, Director

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Lisa has 15 years of experience in the investment banking industry, primarily focused on advising private business owners in liquidity related transactions. Presently, Lisa is a Director in Capstone's Chicago office, supporting the management of the Central Region. Prior to Capstone, Ms. Tolliver worked in the Capital Strategies Group at Morgan Stanley Smith Barney, where she was involved in the evaluation, marketing and closing of numerous transactions across a wide range of industries. Specifically, Lisa has developed expertise within various industries including government and defense, software and technology, manufacturing and outsourced business services. Lisa received her BA on academic scholarship from Illinois State University and is a Series 7 and 63 Registered Securities Representative.



Daniel Schultz, Director of Business Development

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Dan oversees Capstone's national business development and industry coverage activities, working closely with current and prospective clients of the firm on matters related to corporate sales, recapitalizations, mergers & acquisitions and growth financings. In his role, Dan is able to deliver specific market intelligence to clients regarding M&A, financing, strategic, industry and competitive trends. Prior to spearheading the firm's business development and market initiatives, he was a Vice President in Capstone's M&A group, managing numerous successful transactions across a variety of industries. Dan also gained hands-on transaction experience as an investment banker at Headwaters MB. He started his career with Ernst & Young's National Professional AABS practice and later worked in Assurance and Advisory Business Services in the Denver office. Dan received a BE in Biomedical Engineering with a Business Minor from Vanderbilt University. He earned an MBA and a Master of Accountancy from the Daniels College of Business at the University of Denver.

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ABOUT CAPSTONE PARTNERS

Capstone Partners LLC is a premier investment banking firm dedicated to serving the corporate finance needs of middle market business owners, investors and creditors. The firm provides M&A, corporate restructuring, private placement and financial advisory services. Headquartered in Boston, Capstone has offices in Chicago, London, Los Angeles, New York, Orange County, Philadelphia, San Diego, Silicon Valley and Tampa with an international presence that spans 450+ professionals in 70 offices across 31 countries.

**For more information
about our expertise,
please visit
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