



MERIDIAN CAPITAL
INVESTMENT BANKERS

Aerospace | SPRING 2018
M&A UPDATE



Meridian Capital Overview



Exceptional Results Delivered

- Over \$5B in transaction experience
- Trusted advisor to leading middle market companies
- Focus on businesses with \$20M to \$500M+ in enterprise value
- 20+ years experience with complex corporate finance and M&A challenges
- 18 seasoned professionals with finance, operational, and legal backgrounds

Deep Industry Insights

- ❑ Dedicated Industry Teams
- ❑ Holistic Industry Coverage
- ❑ Deep Buyer Relationships

Transaction Expertise

- ❑ M&A
- ❑ Growth Capital
- ❑ Strategic Advisory

Customized Processes

- ❑ High Touch Approach
- ❑ Multidisciplinary Deal Team
- ❑ End-to-end Service

AEROSPACE EXPERTISE



Aerospace Components



Precision Machining and Assembly



MRO Components and Services



Automation and Tooling



Avionics



Composites

Meridian's Aerospace Team

Transaction Leadership & Execution

Brian Murphy

President and Managing Director
Aerospace Practice Lead



Kristin Brandtner

Vice President



Aaron Franzheim

Associate



Joe Hiefield

Analyst



Operational Experience

Mark Mennella

Industry Advisor –
Aerospace & Manufacturing



Years Experience

13 years – M&A and
corporate finance

10 years – Investment
Banking and Corporate
Banking

3 years – Investment
Banking

1 year – Investment
Banking

5 years – M&A
30+ years – Executive

Background

• Redlands (BS, BS)

• Notre Dame (BBA)

• Washington (BBA)

• Oregon (BS)

• Washington (BBA)
• Seattle University
(MBA)

Prior Experience

• Accenture

• J.P. Morgan

• Financial Technology
Partners

• Razorhorse Capital

• ZMAN Magnetics
(CEO)
• Stanley Garage Door
(President and CFO)
• Coastcraft, Inc.

International Aerospace Connections

Global M&A

Meridian Capital is a founding member of Global M&A Partners, a global partnership of independent, middle-market investment banking firms. Established in 1999, the partnership includes 34 investment banks with more than 200 M&A professionals transacting in over 50 countries. Combined the partnership has successfully completed over 1,500 transactions with combined value in excess of \$50 billion over the past five years. Meridian is a leading member of the partnership's Aerospace Coverage Team.

Aerospace Coverage Team Highlights

- Significant aerospace operational and transaction experience
- Global coverage across key geographic markets (50+ countries)
- Unmatched strategic relationships and investor access across aerospace industry
- Leading research and thought leadership

GM&A Partners Aerospace Coverage Team Leadership Group



Noel Forgeard
France

Sector Team Lead
Former Chairman & CEO -
Airbus



Brian Murphy
USA

North American Sector
Team Lead



Clive Snowden
UK

Senior / Operations Advisor
Chairman – Shimtech
Chairman – MAA



Christian Kollmann
Germany

Managing Partner,
Aerospace & Defense



Philippe Dore
France

Managing Partner,
Aerospace & Defense



Ulf Høyen
Nordic Region

Managing Partner,
Aerospace

Global M&A Partners is a leading independent M&A advisory group.

Meridian Capital is a founding member

Meridian Aerospace and Defense Transaction Experience

<p>Blast Deflectors</p>  <p>Global leader in jet blast deflection and engine noise mitigation technology</p> <p>- Acquired By -</p>  <p>HANOVER PARTNERS, INC.</p>  <p>MERIDIAN CAPITAL INVESTMENT BANKERS</p>	<p>Thortex</p>  <p>Leading manufacturer of aerospace and orthopedic components</p> <p>- Acquired By -</p>  <p>AVALIGN Technologies</p>  <p>MERIDIAN CAPITAL INVESTMENT BANKERS</p>	<p>HR Givon</p>  <p>Manufacturer precision machined parts for the aerospace and defense industries</p> <p>- Acquired By -</p>  <p>wipro</p>  <p>MERIDIAN CAPITAL INVESTMENT BANKERS</p>	<p>J&M Machine</p>  <p>Manufacturer of precision machined aerospace parts</p> <p>- Acquired By -</p>  <p>LIBERTY HALL Capital Partners</p>  <p>MERIDIAN CAPITAL INVESTMENT BANKERS</p>	<p>Procesos Termicos</p>  <p>Mexico-based provider of machining and special processing services</p> <p>- Acquired By -</p>  <p>NORANCO</p>  <p>MERIDIAN CAPITAL INVESTMENT BANKERS</p>	<p>JL Manufacturing</p>  <p>Manufacturer of precision machined components for the aerospace and defense industries</p> <p>- Acquired By -</p>  <p>GIVON</p>  <p>MERIDIAN CAPITAL INVESTMENT BANKERS</p>
<p>Imaginetics, Inc.</p>  <p>Tier 1 manufacturer of precision components for the aerospace and defense industries</p> <p>- Acquired By -</p>  <p>KIDD & COMPANY</p>  <p>MERIDIAN CAPITAL INVESTMENT BANKERS</p>	<p>AVIC International</p>  <p>Manufacturer and installer of production and assembly lines</p> <p>- Buy-Side Advisory Services -</p>  <p>MERIDIAN CAPITAL INVESTMENT BANKERS</p>	<p>Mobile Tool Management</p>  <p>Manufacturer of robotics for the aerospace industry</p> <p>- Growth Capital Provided By -</p>  <p>CRAFT</p>  <p>MERIDIAN CAPITAL INVESTMENT BANKERS</p>	<p>Pacific Aerospace & Electronics</p>  <p>Member of SOURIAU Group</p> <p>Manufacturer of precision electronic aerospace, medical, and industrial products</p> <p>- Financial and Buy-Side - Advisory Services -</p>  <p>MERIDIAN CAPITAL INVESTMENT BANKERS</p>	<p>VIOX Corporation</p>  <p>Manufacturer of glass/ceramic compositions for electronic, industrial, and healthcare markets</p> <p>- Acquired By -</p>  <p>ceradyne, inc.</p>  <p>MERIDIAN CAPITAL INVESTMENT BANKERS</p>	<p>Dynamic Ceramic</p>  <p>Leading UK manufacturer of advanced ceramics</p> <p>- Acquired By -</p>  <p>COORSTEK</p>  <p>MERIDIAN CAPITAL INVESTMENT BANKERS</p>
<p>FACC Aerospace</p>  <p>Austrian manufacturer of composite aerospace components & systems</p> <p>- Financial and Buy-Side Advisory Services -</p>  <p>MERIDIAN CAPITAL INVESTMENT BANKERS</p>	<p>Mold Rite</p>  <p>Injection moldings for aerospace, medical, and consumer products</p> <p>- Acquired By -</p> <p>Sound Rite Plastics, Ltd.</p>  <p>MERIDIAN CAPITAL INVESTMENT BANKERS</p>	<p>Loxin</p>  <p>Design and manufacture of large machine tools for the aerospace and railway sectors in Spain</p> <p>- Acquired By -</p>  <p>COMSA EMTE</p>  <p>GLOBALM&A PARTNERS</p>	<p>Airline Services Holdings</p>  <p>Maintenance, repair and overhaul services to airlines and aviation businesses in the U.K.</p> <p>- Management Buyout Backed By -</p>  <p>LDC</p>  <p>GLOBALM&A PARTNERS</p>	<p>E. Winkemann GmbH & Co. KG</p>  <p>Manufacturer of precision metal parts for the aerospace industry</p> <p>- Acquired By -</p>  <p>EQUISTONE</p>  <p>GLOBALM&A PARTNERS</p>	<p>Hutchinson SA</p>  <p>Manufacturer of thermal and acoustics insulation materials</p> <p>- Buy-Side Advisory Services -</p>  <p>GLOBALM&A PARTNERS</p>



M&A Trends, Activity, and Public Comps

Industry M&A Trends

Twice a year, Meridian Capital publishes its Aerospace and Defense M&A Update, which focuses on key trends in the aerospace and defense M&A market. The Spring edition focuses on industry macro indicators, continued strength of the MRO market, Airbus's U.S. supply chain, and the impact of Boeing's Partnering for Success 2.0.

Overall, 2017 proved to be another record year in aerospace and defense M&A activity. Total deal value reached over \$70 billion across more than 450 transactions, though total value was heavily inflated by several blockbuster transactions.

Strong Macro Economic Indicators Continue to Provide Industry Tailwinds

- ❑ In 2017, global passenger air traffic increased at a rate of 7.5%, according to IATA. This trend is projected to continue in 2018 with an estimated 4.3 billion passengers carried via commercial aircraft and 6.0% growth in revenue per kilometer ("RPK"). Continued growth in air travel will further bolster airlines' financial performance and drive demand for new aircrafts.
- ❑ Asia Pacific, and China in particular, continue to see strong air travel growth. Passenger growth in China has quadrupled in the last 10 years and is projected to experience annual growth of 6% with fleet growth of nearly 5% through 2036.
- ❑ The cargo market experienced robust growth of over 9.5% in 2017, and IATA projects the market will grow 4.5% in 2018 reaching \$59.2 billion in revenue. The cargo industry's momentum is bolstering new aircraft orders as well as increased financial incentive for cargo conversions.
- ❑ As the relationship between interest rates (cost to acquire new aircraft) and oil prices (savings from operations of new aircraft) normalize, analysts expect a renewed uptick in aircraft order volume related to fuel efficiency savings.
- ❑ The culmination of these macro trends has resulted in 2018 having the best overall outlook in ten years with an overall projected industry growth rate of 5.2%, according to market research firm the Teal Group.

Industry M&A Trends

OEM Threat to MRO Providers

- ❑ Commercial airline maintenance, repair, and overhaul ("MRO") remains an active subsegment for M&A. Interest from both financial and strategic investors has resulted in multiple transactions since Q3 2017. The industry as a whole is expected to grow at a CAGR of 3.8% from 2017 to 2027 reaching approximately a \$110 billion market, according to Oliver Wyman
- ❑ Over the past several years, OEMs have continued to pressure smaller MRO providers by bringing manufacturing of select components in-house and capturing valuable aftermarket sales. Boeing and Airbus have both insourced work for wings, nacelles, and flight control actuation in order to better control production.
- ❑ Tier 1 providers of aftermarket parts and MRO services are looking to increase their value offerings and scale in order to remain competitive against OEMs. Of note, Standard Aero acquired Vector Aerospace in November, in order to expand its capabilities on select engines and enter the helicopter MRO market.

Growing Airbus Presence in the U.S.

- ❑ Airbus's supply chain within the U.S. has continued to expand. Since 1990, Airbus has spent approximately \$200 billion across 1,000+ U.S. suppliers, including \$15 billion in 2017 alone.
- ❑ Airbus's U.S. manufacturing facility in Mobile, Alabama produces aircraft in the A320 family, which has experienced a robust increase in build rates recently and is scheduled to ramp up to 60 aircrafts per month.
- ❑ Tier 1 and 2 suppliers are looking to increase exposure to Airbus platforms. Diversifying revenue with Airbus provides the opportunity for Boeing suppliers to insulate themselves from Boeing pricing and terms pressure.
- ❑ Because Airbus purchasing decisions are still driven out of France, regional companies already supplying Airbus are attractive potential acquisitions for suppliers seeking to gain access to the OEM.

Airbus Leading Supplier States	Key Technologies Sourced in the U.S.
Ohio	Propulsion
Connecticut	Systems & Equipment
California	Materials
North Carolina	Aerostructures
Washington	

Impact of Boeing's "Partnering for Success 2.0"

- ❑ In 2012, Boeing rolled out its Partnering for Success ("PFS") program aimed at cutting prices with suppliers ~15%. Recently, Boeing has instituted Partnering for Success 2.0 ("PFS2.0"), a program focused on supplier terms and conditions. Under PFS2.0, Boeing is seeking to further reduce costs with long-term pricing arrangements and revised terms and conditions. These negotiations include the lengthening of Boeing's payment terms and the request for suppliers to hold a larger portion of the OEM's inventory.
- ❑ As Boeing continues to pressure its supply chain, smaller suppliers are consolidating, supporting the shift from small, independently owned suppliers to larger suppliers with greater resources to meet Boeing's demands.
- ❑ Consolidation has also occurred among the largest Tier 1 suppliers, creating companies with compelling value propositions and the scale to increase negotiating leverage with the key OEMs. These recent acquisitions include United Technologies' acquisition of Rockwell Collins, Northrop Grumman's acquisition of Orbital ATK, and Safran's acquisition of Zodiac Aerospace.

Select Transaction Case Studies



HANOVER PARTNERS, INC.



*Acquired in March 2018**

Target Description: Global leader in jet blast deflection and engine noise mitigation technology.

Investment Rationale: The Company has a historically high backlog of high profile projects and multi-year revenue streams.

Buyer Quote: "...the robust secular trends around commercial aviation provide BDI an attractive market opportunity in core and adjacent markets through organic and acquisitive growth, respectively." – Andrew Ford, Principal at Hanover



Acquired in January 2018

Target Description: Leading provider of products that facilitate the transfer of fluids and gases at extreme temperatures and pressures for the aerospace, defense, and space industries.

Investment Rationale: The addition of FMH Aerospace adds to a variety of recent acquisitions aimed at broadening AMETEK's instrumentation platform.

Buyer Quote: "We are very excited with the [acquisition] of FMH Aerospace as [it] offer[s] differentiated products serving an attractive market." – David Zapico, CEO of AMETEK



Acquired in February 2018

Target Description: Manufacturer of complex 5-axis structural aerospace parts.

Investment Rationale: Thompson Street Capital and Onward Capital partnered to acquire Tech Manufacturing as an add-on to their joint platform company, Domaille Engineering.

Buyer Quote: "The resulting combination of talent and resources will allow us to deliver a broader solution to our customers." – Tim Kanne, President of Domaille Engineering



Acquired in November 2017

Target Description: Provider of maintenance, repair, and overhaul services for the aerospace industry.

Investment Rationale: Expand international services and scale operations by combining similar companies.

Buyer Quote: "We are excited to join forces with the Vector team in becoming one of the largest MRO companies in the world." – Russell Ford, CEO of StandardAero.

Notable Recent Transactions

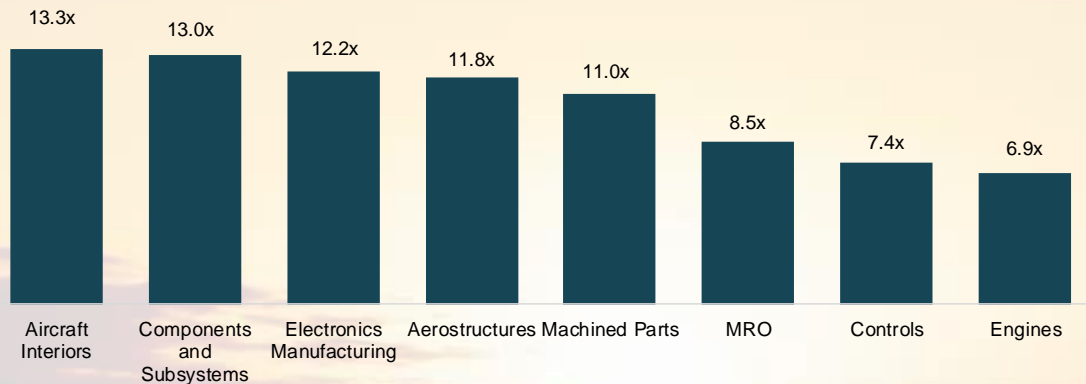
Date	Target	Buyer	Segment	EV (\$M)	EV / Revenue	EV / EBITDA
Mar-18	Kirkhill	TransDigm Group	Components and Subsystems	\$50.0	0.6x	-
Mar-18	Blast Deflectors	Hanover Partners	Ground Support Equipment	-	-	-
Mar-18	Stone Foundries	Aeromet via Privet Capital	Machined Components	-	-	-
Feb-18	San Diego Composites	Applied Composites via AE Industrial Partners	Aerostructures	-	-	-
Feb-18	Zodiac Aerospace (ZC)	Safran	Components and Subsystems	\$7,700.0	1.4x	NM
Feb-18	Tech Manufacturing	Domaille Engineering	Machined Parts	-	-	-
Jan-18	Air Transport Components	Holder Family Investments	MRO	-	-	-
Jan-18	FMH Aerospace	AMETEK	Components and Subsystems	\$235.0	4.7x	-
Jan-18	AERnova	TowerBrook Capital Partners	Aerostructures	-	-	-
Dec-17	Applied Composite Structures	AE Industrial Partners	Composites	-	-	-
Dec-17	Recaero	iXO Private Equity	Machined Parts	-	-	-
Dec-17	Oxford Performance Materials (Aerospace & Defense Business)	Hexcel	Components and Subsystems	-	-	-
Dec-17	Malabar International	Tronair via Golden Gate Capital	Ground Support Equipment	-	-	-
Nov-17	Cadence Aerospace	Arlington Capital Partners	Machined Parts	-	-	-
Nov-17	Anodyne Electronics Manufacturing	Structural Monitoring	Components and Subsystems	\$7.8	-	-
Nov-17	Oceania Aviation	Salus Aviation Group	MRO	-	-	-
Nov-17	Vector Aerospace	StandardAero via Veritas Capital	MRO	\$600.0	0.8x	-
Nov-17	Mach Aero Bretigny Rectification	NMB Minebea	Machined Parts	-	-	-
Nov-17	Forming and Machining Industries	AE Industrial Partners	Machined Parts	-	-	-
Nov-17	Applied Composites Engineering	AE Industrial Partners	Composites	-	-	-
Oct-17	Aviation Managed Solutions	Launch Technical Workforce Solutions	MRO	-	-	-
Oct-17	Island Air (ATR inventory and Tooling)	AAR	MRO	-	-	-

*Highlighted transactions indicate Meridian Capital transactions.

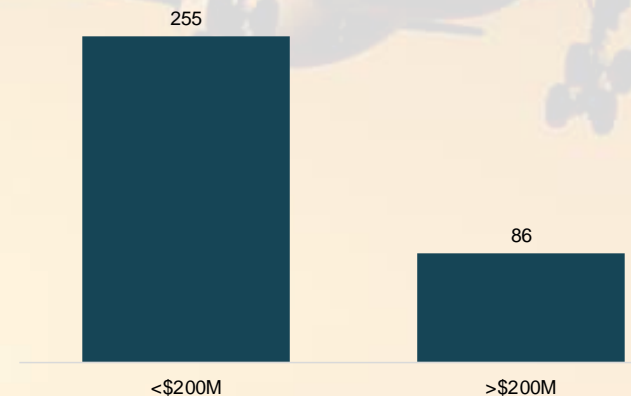
Notable Recent Transactions

Date	Target	Buyer	Segment	EV (\$M)	EV/ Revenue	EV/ EBITDA
Oct-17	Sepang Aircraft Engineering	Airbus	MRO	-	-	-
Oct-17	Remos Aircraft	Stemme	Aerostructures	-	-	-
Oct-17	Flite Line Equipment	Goldhofer	Ground Support Equipment	-	-	-
Oct-17	Loar Group	Abrams Capital	Components and Subsystems	-	-	-
Sep-17	Plasco Tooling and Engineering	Visioneering via 3P Equity Partners and Silver Sail Capital	Automation and Tooling	-	-	-
Sep-17	Orbital ATK	Northrop Grumman	Aerostructures	\$9,200.0	1.9x	13.5x
Sep-17	Rotable Repairs	Desser Tire & Rubber via Graham Partners	MRO	-	-	-
Sep-17	Rockwell Collins (COL)	United Technologies	Components and Subsystems	\$30,000.0	3.9x	17.7x
Sep-17	WestWind Technologies	Strata-G Solutions	Components and Subsystems	-	-	-

Transaction Multiple by Segment*



Transaction Volume by EV*



*Transactions completed since 2010 with an EV/EBITDA multiple reported

Source: Pitchbook

Select Public Companies

\$ in M

Company Name	Market Cap	EV	LTM		EV/LTM		LTM Margin EBITDA	52-Week Change
			Rev	EBITDA	Rev	EBITDA		
Aerospace								
The Boeing Company (NYSE:BA)	187,683	188,265	93,392	12,546	2.0x	15.0x	13.4%	82.3%
United Technologies Corporation (NYSE:UTX)	99,267	119,709	59,837	10,812	2.0x	11.1x	18.1%	9.4%
Airbus SE (ENXTPA:AIR)	90,484	84,543	75,297	8,115	1.1x	10.4x	10.8%	52.3%
Safran SA (ENXTPA:SAF)	45,727	44,057	18,040	5,138	2.4x	8.6x	28.5%	35.3%
TransDigm Group Incorporated (NYSE:TDG)	15,801	26,691	3,538	1,641	7.5x	16.3x	46.4%	41.1%
Textron Inc. (NYSE:TXT)	14,925	17,575	14,129	1,314	1.2x	13.4x	9.3%	22.9%
Spirit AeroSystems Holdings, Inc. (NYSE:SPR)	9,567	10,295	6,983	784	1.5x	13.1x	11.2%	46.6%
Zodiac Aerospace (ENXTPA:ZC)	8,536	9,544	5,629	312	1.7x	30.5x	5.6%	21.6%
MTU Aero Engines AG (XTRA:MTX)	8,457	9,097	5,680	811	1.6x	11.2x	14.3%	29.1%
HEICO Corporation (NYSE:HEI)	8,130	8,397	1,586	391	5.3x	21.5x	24.7%	55.2%
Bombardier Inc. (TSX:BBD.B)	6,426	14,540	16,218	185	0.9x	NM	1.1%	85.9%
Hexcel Corporation (NYSE:HXL)	5,788	6,538	1,973	455	3.3x	14.4x	23.1%	21.3%
Embraer S.A. (BOVESPA:EMBR3)	4,759	6,539	6,134	840	1.1x	7.8x	13.7%	13.1%
Esterline Technologies Corporation (NYSE:ESL)	2,195	2,195	2,002	299	1.1x	7.4x	14.9%	(13.2%)
Senior plc (LSE:SNR)	1,763	1,973	1,318	154	1.5x	12.8x	11.7%	66.2%
Kaman Corporation (NYSE:KAMN)	1,714	2,081	1,806	116	1.2x	17.9x	6.4%	27.2%
Triumph Group, Inc. (NYSE:TGI)	1,277	2,587	3,222	(37)	0.8x	NM	(1.1%)	4.1%
Ducommun Incorporated (NYSE:DCO)	326	540	558	39	1.0x	13.9x	6.9%	3.6%
Median	\$8,294	\$9,320	\$5,654	\$620	1.5x	13.3x	12.6%	28.1%
Mean	\$28,490	\$30,842	\$17,630	\$2,440	2.1x	14.1x	14.4%	33.6%
Defense								
Lockheed Martin Corporation (NYSE:LMT)	93,507	104,983	51,048	7,115	2.1x	14.8x	13.9%	25.9%
Raytheon Company (NYSE:RTN)	60,329	61,979	25,348	3,847	2.4x	16.1x	15.2%	42.0%
Northrop Grumman Corporation (NYSE:NOC)	58,986	62,160	25,803	3,884	2.4x	16.0x	15.1%	46.6%
BAE Systems plc (LSE:BA.)	25,772	28,012	23,491	2,602	1.2x	10.8x	11.1%	(0.4%)
Thales S.A. (ENXTPA:HO)	25,314	22,986	16,648	1,943	1.4x	11.8x	11.7%	22.7%
Rockwell Collins, Inc. (NYSE:COL)	22,127	28,926	7,640	1,696	3.8x	17.1x	22.2%	38.3%
L3 Technologies, Inc. (NYSE:LLL)	15,672	18,424	9,573	1,304	1.9x	14.1x	13.6%	22.0%
Elbit Systems Ltd. (TASE:ESLT)	5,507	5,793	3,378	415	1.7x	13.9x	12.3%	16.7%
Kratos Defense & Security Solutions, Inc. (NasdaqGS:KTOS)	965	1,129	752	NM	1.5x	NM	NM	12.9%
Median	\$25,314	\$28,012	\$16,648	\$2,273	1.9x	14.4x	13.8%	22.7%
Mean	\$34,242	\$37,155	\$18,187	\$2,851	2.0x	14.3x	14.4%	25.2%

As of March 26, 2018

Source: Pitchbook

Selected Private Equity Investments in Sector

Components, Subsystems, and Aerostructures



Machined Parts



Automation / Tooling



Other



Composites



MRO



Engine Components



Exceptional Results Delivered



Brian Murphy
President and Managing Director
Seattle
o: 206.224.6156
e: bmurphy@meridianllc.com

Kristin Brandtner
Vice President
Seattle
o: 206.453.6817
e: kbrandtner@meridianllc.com

Aaron Franzheim
Associate
Seattle
o: 206.582.3890
e: afranzheim@meridianllc.com

Joe Hiefield
Analyst
Seattle
o: 206.529.4200
e: jhiefield@meridianllc.com

Mark Mennella
Industry Advisor
Seattle
o: 206.799.7755
e: mmennella@meridianllc.com