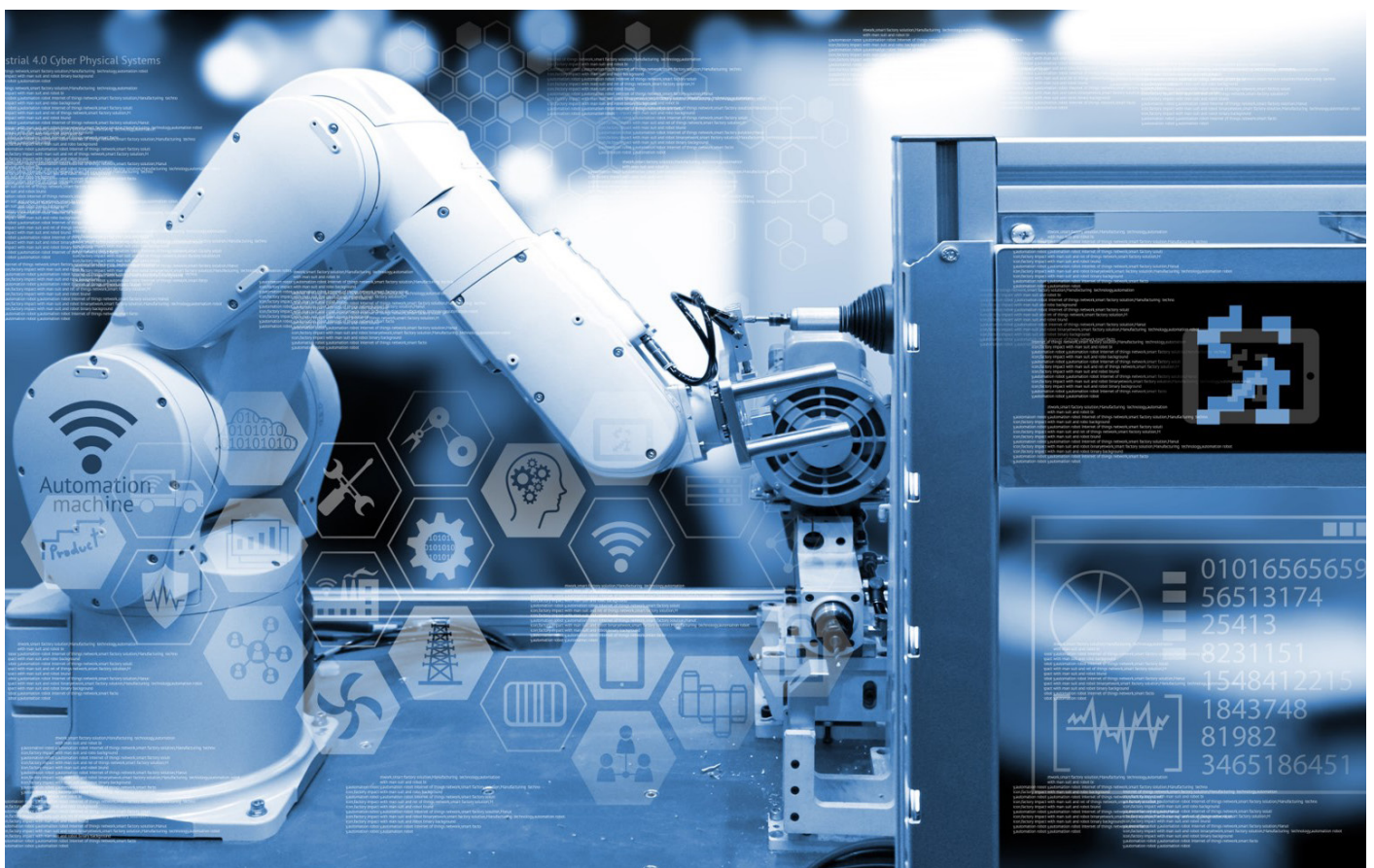


M&A Industry Update

Industrial Automation & Machinery



JANUARY 2019

Alantra's IAM Coverage

Introduction to Alantra's Industrial Automation & Machinery Sector Coverage:

Alantra has a long and successful track-record advising clients in the Industrial Automation & Machinery (IAM) which consists of several subsectors that all benefit from the global automation megatrend. Our IAM subsectors include Material Handling Technology, Production Machinery, Factory Automation, Process Automation, and Measuring & Testing. We have a dedicated global team of senior bankers with decades of experience and strong relationships with many of the world's IAM companies and investors.

This is Alantra's first IAM industry update, featuring key trends and M&A developments within the Material Handling Technology subsector. Other subsectors will be featured in newsletters to come.

Alantra's IAM Subsectors & Recent Transactions

Material Handling Technology

EQUIPMENT, AUTOMATED MACHINERY AND SYSTEMS, SUPPLY-CHAIN-AND SOFTWARE SOLUTIONS FOR WAREHOUSES AND DISTRIBUTION CENTERS



2018



IK Investment Partners
transnorm
your best move
Honeywell

Advisor to IK Investments Partners on the sale of Transnorm to Honeywell

Production Machinery

PACKAGING MACHINERY AND SPECIALIZED PRODUCTION MACHINERY FOR A BROAD RANGE OF APPLICATIONS



2017



HQ Equita
ROVEMA
HANIEL

Advisor to HQ Equita on the sale of its portfolio company Rovema GmbH to Franz Haniel & Cie.

Factory Automation

COMPONENTS, ROBOTICS AND FULLY INTEGRATED MANUFACTURING SYSTEMS ENABLING THE DIGITAL FACTORY CONCEPT



2017



QUADRIGA CAPITAL
M&R AUTOMATION
PIA

Advisor to Quadriga Capital on the sale of M&R Automation to PIA Automation Holding (part of Joyson Group)

Process Automation

PROCESSING AND BULK MATERIAL HANDLING EQUIPMENT FOR FOOD AND OTHER DIVERSE END-MARKETS



2018



HOEGGER
PROVISUR
TECHNOLOGIES

Advisor to the shareholders of Hoegger in the disposal of their shares to Provisur Technologies

Measuring & Testing

SPECIALIZED MEASUREMENT AND TESTING EQUIPMENT FOR A VARIETY OF END-MARKETS



2018



QUADRIGA CAPITAL
alicon
BRUKER

Advisor to Quadriga Capital on the sale of its portfolio company Alicona to Bruker Corporation

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In Focus: Automated Material Handling Sector

Automation takes a step further in today's warehouses

In five to ten years, the “Warehouse of the Future” will be unrecognisable from its current incarnation. Combining plug and play automation technology, robotics, big data analytics and artificial intelligence allows us to glimpse what the future warehouse will look like: smarter, more connected, automated and robotised. Material handling automation companies who have this vision and who are able to quickly embrace these new technologies will have a significant competitive advantage.

Sustainable long-term growth in the automated material handling industry driven by E-commerce

The €40bn industry for automated material handling solutions (including warehouse, distribution center, and logistics automation) is currently growing up to of 10% annually. The strong growth is primarily driven by the booming E-commerce market, which has dramatically raised the bar for increased supply chain efficiency across the economy, due to consumer demand for immediate and inexpensive delivery of their purchases. The runway of growth ahead in this market is long, driven by 1) strong continued E-commerce growth (17% annually through 2023), 2) permanently changed shopping habits of consumers 3) and still relatively low adoption of warehouse automation.



E-commerce

Over the past ten years global E-commerce has literally exploded. Growing 20% annually, it has increased from 2% of total retail sales to about 12% today. Millennials born between 1980 and 2000 are the biggest online shoppers and will drive E-commerce sales even further, as they are about to enter their peak spending years.

Omnichannel

Online giants such as Amazon and Alibaba have created extremely demanding consumers who require fast and inexpensive delivery and return handling and expect a seamless shopping experience across various channels (“omnichannel”).

Automation

At the same time, adoption of automation in many warehouses and distribution centres outside the online retail giants and parcel companies is still rather low. In other words, much of the automation across supply chains is yet to come.

Figure 1: Global E-commerce Sales and E-commerce Penetration : Share of total retail sales

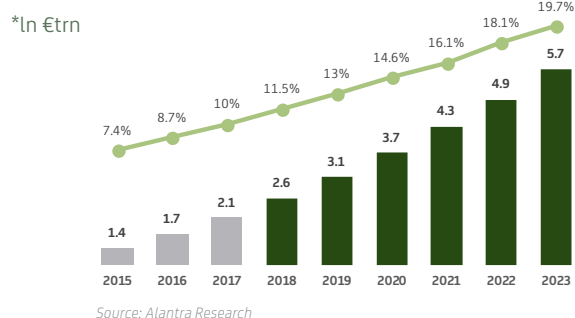
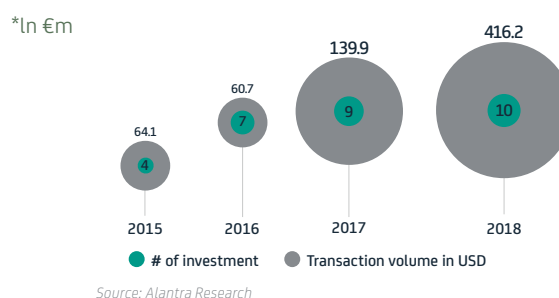


Figure 2: Investments into Start-Ups for Warehouse Robots since 2015



The warehouse of the future

In order to cope with the ever increasing E-commerce challenge, the warehouse of the future requires maximum flexibility, full automation, and smart data, fully embracing the concept of Industry 4.0. Hence, the industry for automated material handling systems is rapidly evolving from large, rigid systems into modular, flexible software-driven solutions that are robot-supported and self-optimising.

Technology disrupters such as Amazon Robotics (formerly Kiva Systems, the gold standard in terms of robotic-supported fulfillment centre), as well as ASRS provider Austostore are technology disrupters and pioneers. They have gained tremendous market share. Furthermore, a number of robotic startups are receiving hundreds of millions in investments and are expected to further shake up the traditional automated material handling industry. Latest example: Amazon recently announced an agreement with the French self-driving forklifts robotics company Balyo, whereby Amazon could build a position of up to 1/3 in the shares of the company going forward¹⁾. (see figure 2)

While many material handling automation solution providers have started to invest or already offer solutions for the warehouse of the future, we have only scratched the surface of this emerging industry. Winners in this dynamic market will be those companies who are able to offer smarter, more connected, automated and robotised solutions and are able to overcome challenges that come along with it (e.g. data security).

¹⁾ Under the terms of the deal, Amazon will receive free stock warrants representing up to 29 percent of Balyo's capital which it can exercise depending on orders of the company's products.

In focus: Automated Material Handling Sector

Accelerated consolidation and attractive valuations

Since 2016, 3 of the top 5 material handling system integrators have been acquired

Fast industry growth, technological change and high valuations have driven consolidation in the automated material handling market. Since 2016, 3 of the top 5 material handling system integrators have been acquired, and the pace of consolidation has picked-up. While there has been constant deal flow in the past, the number of transactions in the sector has accelerated: we have counted ca. 80 transactions over the past 5 years, but almost half of them have been completed during 2017 and 2018.

Attractive market outlook as well as strategic motivation is driving consolidation and multiples

Besides very favourable industry dynamics, the consolidation wave was spurred by a few very visible deals in the recent past, where large corporates were prepared to pay a significant strategic premium for attractive automated material handling companies (see figure 3). While previous private equity owners were paying as high as 9x EBITDA on average, the same companies changed ownership 14.0x EBITDA on average recently. The motivation was consistently to secure a position in the attractive automated material market:

Kion Group's €2.9bn acquisition of Dematic in 2016 and Toyota's €1.2bn acquisition of Vanderlande subsequent to its acquisition of Bastian in the US was to a large extent driven by the urge to invest into the growing

automated material handling market, since the traditional fork-lifts market is to a large extent saturated globally.

Honeywell's €1.4bn acquisition of US market leader Intelligrated was also highly strategic for the conglomerate, as they were looking to broaden their offering to its E-commerce customers in the US. The acquisition of Transnorm in 2018 was driven by the need to get a platform in Europe.

Similarly, the US integrator MHS acquired VanRiet in Europe earlier in 2018, also driven by the need to expand its footprint internationally.

Further consolidation expected

The current competitive landscape in the automated material handling industry has a handful of large players - Dematic, SSI Schäfer, Honeywell/Intelligrated, Toyota/Vanderlande/Bastian, Daifuku - who generate revenues in excess of €1bn globally. These giants are expected to continue to complement their portfolio and geographical footprint via acquisition. On top, we will also see private equity to successfully acquire into the sector (e.g. EQT's acquisition of Autostore).

Beneath the top tier, there is a disparate second tier of strongly performing automated material handling players, some of whom could be ripe for consolidation. These will be companies with a strong regional market position, engineering talent and / or highly specialized technology. The sellers- will be investors and business owners who are either spurred on by currently high valuation levels or need the scale to better manage upcoming challenges. These range from investments required by technology change, to increasing global competition.



“

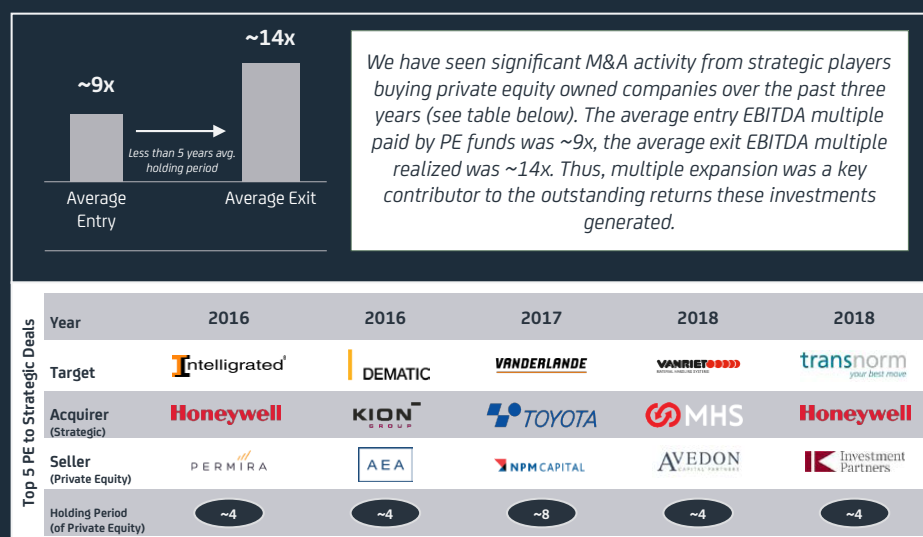
Valuations in the automated material handling industry have been at record highs in the last 18 months, driven by a generally strong M&A environment as well as strong appetite for automated material handling companies from both strategic and private equity buyers.

Some companies with strong E-commerce exposure and which are in-tune with the digitalization trend have achieved valuation multiples above mid-teens and higher. Key valuation drivers were the attractive long-term market outlook, lack of companies available for acquisition as well as aggressive growth ambitions of strategic acquirers.

Looking into next year, we see a somewhat softer M&A environment generally, driven by geopolitical and economic uncertainties. However, valuations within the automated material handling sector will remain high: the orderbooks of automated material handling companies are still at record levels, and E-commerce growth and the structural technology shift will continue to drive the market. A potential broader economic slow-down could however have a negative impact on valuations temporarily.

FRANK MERKEL
MANAGING PARTNER

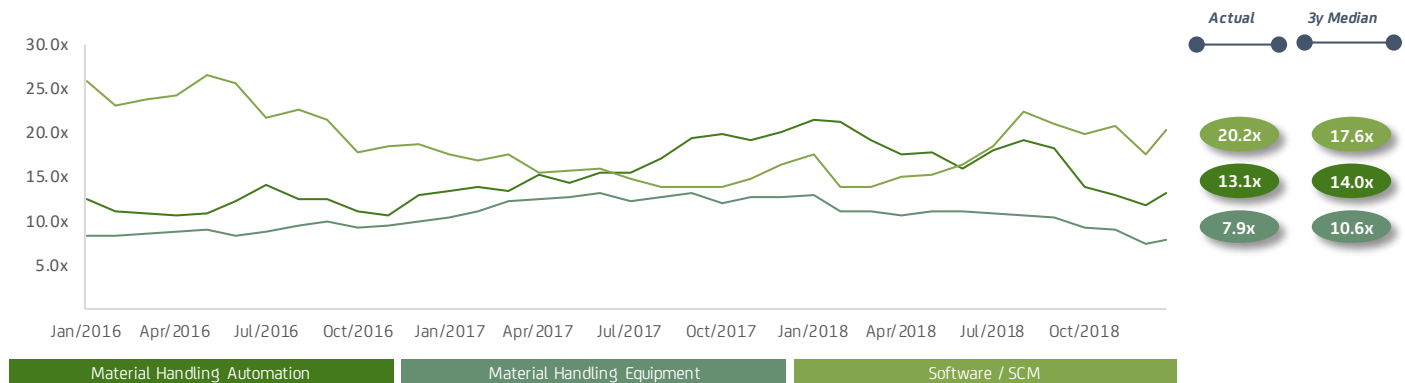
Figure 3: Top 5 PE to Strategic Deals (EV / EBITDA Multiple Development)



Source: Alantra Research

Valuation Update: Material Handling Technology

Historical Development Based on Monthly EV/ LTM EBITDA Multiples



Company		EV in EURm	Share Price in EUR	% of LTM high	Revenue CAGR 2018-20	EBITDA Margin		EV / EBITDA	
						LTM	2019	LTM	2019
Material Handling Automation									
Daifuku	JP	4,767	41.3	65.7%	7.6%	12.0%	12.0%	11.3x	9.8x
Interroll	CH	1,098	1,331.8	74.6%	8.8%	13.8%	15.3%	18.4x	14.0x
Kardex	CH	715	110.0	69.1%	7.4%	13.6%	14.5%	13.1x	10.9x
Median					7.6%	13.6%	14.5%	13.1x	10.9x
Mean					7.9%	13.1%	13.9%	14.3x	11.6x
Material Handling Equipment									
Cargotec	FI	2,643	30.4	59.6%	4.6%	9.6%	9.8%	8.3x	7.5x
ColumbusMcKinnon	US	975	30.1	74.7%	n.a.	14.0%	15.8%	9.2x	7.9x
Jungheinrich	DE	4,208	25.9	62.6%	5.3%	15.6%	15.2%	7.3x	7.0x
Kion	DE	9,061	47.2	59.8%	4.9%	15.2%	17.5%	7.6x	6.2x
Konecranes	FI	3,008	30.0	70.7%	3.6%	10.2%	11.9%	9.4x	7.6x
Manitowoc	US	665	14.2	36.6%	5.6%	5.5%	6.8%	7.6x	5.7x
Median					4.9%	12.1%	13.5%	7.9x	7.3x
Mean					4.8%	11.7%	12.8%	8.2x	7.0x
Software / SCM									
Manhattan	US	2,702	42.6	77.5%	1.8%	27.2%	22.7%	20.2x	23.9x
Total Median					5.3%	13.7%	14.8%	9.3x	7.7x
Total Mean					5.5%	13.7%	14.2%	11.2x	10.0x

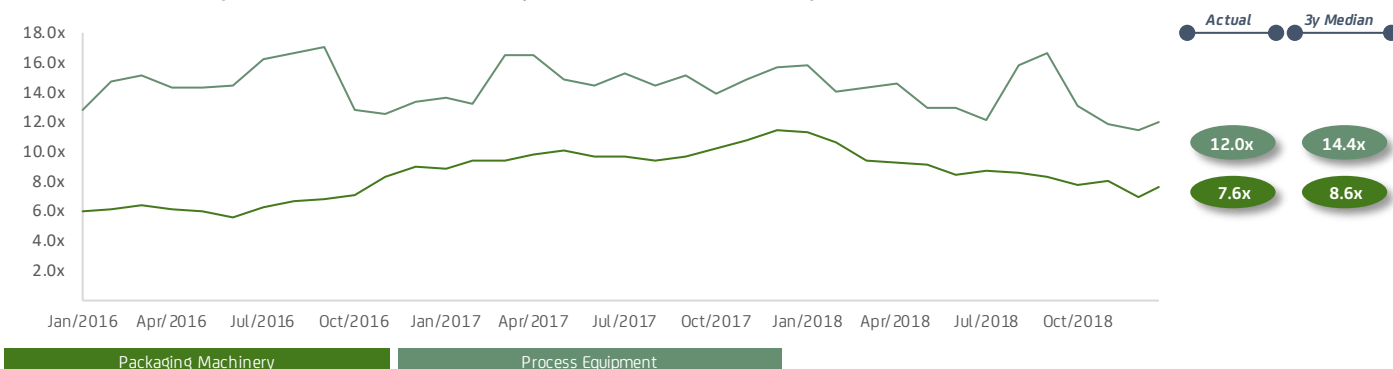
Selected Transactions since 2018

Date	Target	Description	Acquirer
Jan 19	Balyo	Developer of innovative robotic solutions for material handling trucks (signed a seven year commercial agreement)	Amazon
Oct 18	Transnorm	Provider of high performance conveyor and sortation technology used in order fulfilment and distribution centres	Honeywell
Jul 18	Averys	Engaged in the production and installation of storage systems including racks, warehouse automation and metallic furniture	Blackstone
Jul 18	Savoye	Provider of automated warehouse and logistics systems as well as related software	Noblelift
Jul 18	Megadyne	Manufacturers of industrial transmission belting and lightweight conveyor belting for a broad range of end-markets	Partners Group
Jun 18	Ammeraal Beltech		
Jun 18	Knapp¹⁾	Manufacturer of material handling, warehouse automation, and intralogistics systems for a broad range of industries	Bartenstein Holding
May 18	VanRiet	Engaged in the design and installation of automated transport and sorting solutions	MHS
May 18	Peach State Technologies	Provider of integrated supply chain transformation solutions	Bastian Solutions

Source: S&P Capital IQ as of 18th January 2019, MergerMarket, Alantra Research
Note: Latest available figures, All financials calendarized to December year-end; 1) 30% stake

Valuation Update: Production & Process Machinery – Focus on Food Industry

Historical Development Based on Monthly EV/ LTM EBITDA Multiples



Company		EV in EURm	Share Price in EUR	% of LTM high	Revenue CAGR 2018-20	EBITDA Margin		EV / EBITDA	
						LTM	2019	LTM	2019
Packaging Machinery									
Bobst	CH	1,093	68.7	59.5%	3.4%	8.9%	9.6%	7.9x	7.7x
CKD	JP	544	8.2	32.3%	4.7%	11.7%	13.0%	4.7x	4.7x
IMA	IT	2,710	59.1	69.4%	3.7%	13.9%	16.7%	12.2x	10.2x
Shibuya	JP	704	29.5	74.3%	8.9%	12.4%	12.5%	7.4x	6.3x
Median					4.2%	12.1%	12.8%	7.6x	7.0x
Mean					5.2%	11.7%	12.9%	8.1x	7.2x
Process Equipment									
GEA	DE	4,528	24.5	59.7%	3.4%	7.9%	11.4%	11.9x	8.0x
JBT	US	2,593	69.6	63.8%	2.2%	12.2%	13.5%	13.0x	11.2x
Krones	DE	2,457	76.7	62.5%	4.6%	7.2%	9.0%	8.7x	6.8x
Marel	IS	2,347	2.9	98.3%	n.a.	17.9%	n.a.	12.0x	n.a.
Middleby	US	7,415	103.1	84.3%	7.4%	22.0%	22.6%	14.7x	12.6x
Median					4.0%	12.2%	12.4%	12.0x	9.6x
Mean					4.4%	13.4%	14.1%	12.1x	9.6x
Total Median					4.1%	12.2%	12.8%	11.9x	7.8x
Total Mean					4.8%	12.7%	13.5%	10.3x	8.4x

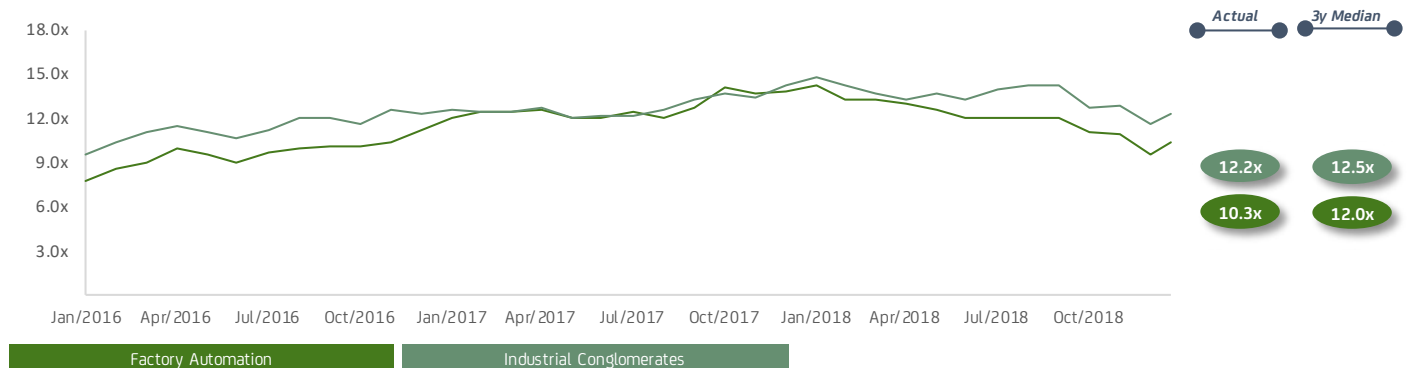
Selected Transactions since 2018

Date	Target	Description	Acquirer
Dec 18	Wulftec International	Developer of stretch wrapping machines	Duravant
Dec 18	Unifiller Systems	Provider of portioning depositors serving the commercial baking and industrial food production industries	LINXIS
Nov 18	IMA Filling Business	60% of the Filling business of the companies ERCA, HASSIA, HAMBAGASTI and IMA Dairy & Food USA	Private Investor
Sep 18	Shanghai Xiantong Equipment	Manufacturer of beverage process technology equipment	Krones
Jul 18	FTNON	Developer of food processing equipment	JBT
Jul 18	Hoegger	Provider of meat form pressing equipment, potato separation equipment and continuous cook & chill systems for cooking	Provisur
Jun 18	FAWEMA & HDG	Manufacturers of premium VFS and horizontal FFS pouch machinery	HQ Equita
May 18	CIEMME	Manufacturer of carton packaging machines and automatic systems	IMA
Apr 18	Josper	Manufacturer of grill and oven cooking equipment for commercial foodservice	Middleby
Jan 18	Key Technology	Manufacturer of digital sorting, inspection, conveying and processing equipment	Duravant
Jan 18	Pro Mach	Manufacturer of packaging and processing machinery for food, beverage, consumer goods, pharmaceutical and other consumer and industrial companies	Leonard Green & Partners

Source: S&P Capital IQ as of 18th January 2019, MergerMarket, Alantra Research
 Note: Latest available figures, All financials calendarized to December year-end

Valuation Update: Factory Automation

Historical Development Based on Monthly EV/ LTM EBITDA Multiples



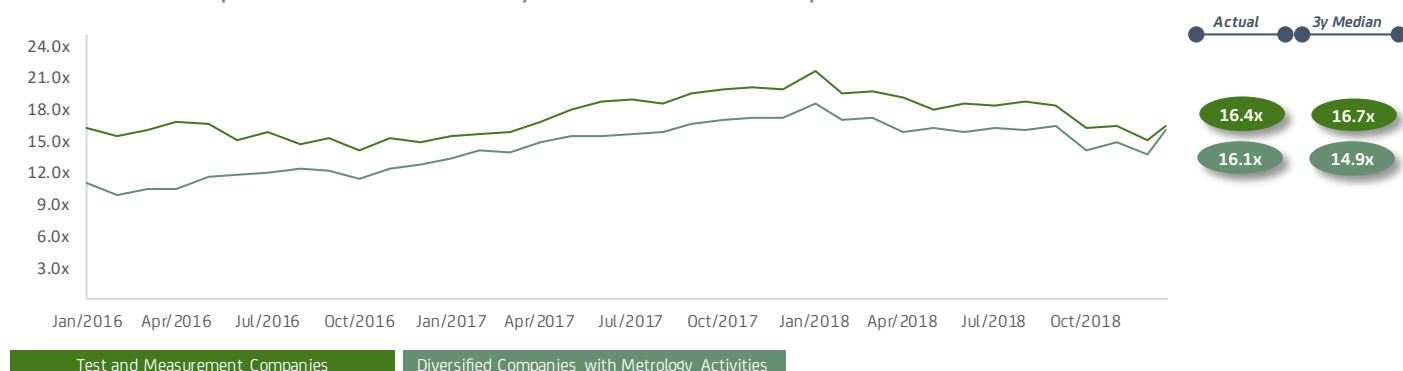
Company		EV in EURm	Share Price in EUR	% of LTM high	Revenue CAGR 2018-20	EBITDA Margin		EV / EBITDA	
						LTM	2019	LTM	2019
Factory Automation & Robotics									
ABB	CH	41,917	17.0	70.8%	4.3%	13.3%	14.3%	10.2x	8.7x
ATS	CA	1,031	11.1	67.6%	7.5%	11.3%	14.4%	11.8x	8.3x
Fanuc	JP	22,727	148.0	57.5%	0.2%	35.5%	36.9%	10.3x	13.3x
Omron	JP	6,298	34.4	56.0%	1.4%	12.6%	13.0%	7.1x	7.0x
Median					2.9%	13.0%	14.3%	10.3x	8.5x
Mean					3.4%	18.2%	19.6%	9.9x	9.3x
Industrial Conglomerates									
Emerson	US	38,376	56.1	79.9%	6.2%	20.5%	21.5%	12.2x	10.6x
Honeywell	US	98,433	124.9	84.6%	n.m.	20.9%	23.7%	12.4x	12.7x
Rexnord	US	3,309	22.2	78.6%	2.9%	18.3%	21.9%	9.3x	8.1x
Rockwell	US	18,231	145.1	79.4%	4.5%	21.7%	23.0%	14.3x	12.9x
Siemens	DE	102,800	100.7	80.2%	5.2%	11.0%	12.5%	11.3x	9.2x
Median					4.8%	20.5%	21.9%	12.2x	10.6x
Mean					4.7%	18.5%	20.5%	11.9x	10.7x
Total Median					4.4%	18.3%	21.5%	11.3x	9.2x
Total Mean					4.0%	18.3%	20.1%	11.0x	10.1x

Selected Transactions since 2018

Date	Target	Description	Acquirer
Nov 18	Vescon / Schiller	Providers of automation solutions focusing on auto chassis assembly, lighting, and intralogistics solutions	Quadriga
Sep 18	KMW	Supplier of micro-assembly and test solutions, clamping and tooling devices to the automotive and other industrial sectors	ATS Automation
Sep 18	Gimatic	Provider of end-of-arm tooling for industrial automation applications in end markets such as automotive, packaging, healthcare, and food and beverage	Barnes Group
Jul 18	SKF Motion	Provider of electrical linear actuator components, systems and linear motion products	Triton
Jul 18	Prodomax Automation	Manufacturer of automated manufacturing solutions	Jenoptik
Jul 18	Rollon	Manufacturer of linear bearings, actuators, and linear motion products	Timken
Jul 18	Asic Robotics	Develops and manufactures custom-built machines for production, assembly and testing processes for a wide variety of industries e.g. automotive and med-tech	Paragon Partners
Jun 18	FFT	Developer of automated and flexible production systems	Fosun
May 18	Nadella	Manufacturer of systems in the linear and motion solutions market	ICG
Apr 18	PIAB	Developer and manufacturer of gripping and moving parts solutions, including vacuum pumps and ejectors, suction cups and vacuum conveyors	Patricia Industries
Apr 18	BBS Automation	Developer and manufacturer of innovative and flexible automation and testing technology	EQT

Valuation Update: Measuring Testing

Historical Development Based on Monthly EV/ LTM EBITDA Multiples



Company		EV in EURm	Share Price in EUR	% of LTM high	Revenue CAGR 2018-20	EBITDA Margin LTM	2019	EV / EBITDA LTM	2019
Test and Measurement Companies									
Bruker	US	4,738	30.4	94.9%	3.8%	17.5%	19.5%	16.4x	14.0x
Faro	US	533	37.8	61.1%	11.9%	7.0%	11.6%	21.8x	11.3x
Fortive	US	24,888	64.3	82.7%	5.3%	23.9%	25.2%	16.3x	15.2x
Hexagon	SE	17,996	43.6	81.2%	6.5%	30.6%	32.8%	15.9x	13.6x
Keyence	JP	46,139	443.3	76.3%	10.9%	56.3%	55.9%	17.9x	16.0x
Spectris	GB	3,488	27.9	83.1%	3.8%	16.5%	17.7%	12.1x	10.4x
Median					5.9%	20.7%	22.3%	16.4x	13.8x
Mean					7.1%	25.3%	27.1%	16.7x	13.4x
Diversified Companies with Metrology Activities									
Ametek	US	16,006	63.7	88.3%	6.0%	26.3%	26.1%	14.7x	13.2x
Jenoptik	DE	1,581	27.4	69.2%	5.7%	15.1%	15.9%	12.9x	11.4x
Olympus	JP	13,017	36.5	96.7%	3.6%	12.6%	17.3%	16.1x	11.5x
Renishaw	GB	3,398	48.3	73.1%	8.3%	28.6%	29.6%	16.8x	14.7x
Roper	US	29,958	248.3	90.2%	4.7%	34.5%	34.7%	19.6x	18.2x
Median					5.7%	26.3%	26.1%	16.1x	13.2x
Mean					5.7%	23.4%	24.7%	16.0x	13.8x
Total Median					5.9%	25.1%	25.7%	16.4x	13.8x
Total Mean					6.7%	25.2%	26.9%	16.8x	13.9x

Selected Transactions since 2018

Date	Target	Description	Acquirer
Jan 19	Etalon	Provider of system solutions for geometric analysis and accuracy improvement for measuring machines	Hexagon
Dec 18	Palas	Particle measurement technology specialist	Brockhaus
Nov 18	Alicona	Manufacturer of optical 3D surface measurement solutions for quality assurance	Bruker
Nov 18	Spectro Scientific	Provider of instruments for machine condition monitoring	Ametek
Oct 18	4D Technology	Provider of interferometric measurement and inspection systems	Nanometrics
Sep 18	Ovitec and OTTO	Manufacturer of optical measuring and inspection systems based on industrial image processing	Jenoptik
Aug 18	Baker Instrument	Manufacturer of test and diagnostic instruments for electric motor assessment	Megger Group
Jul 18	Open Technologies	Manufacturer of optoelectronic products such as 3D structured light scanning solutions	Faro
May 18	Laser 2000	Provider of laser and photonics solutions	Gimv
May 18	Nextsense	Provider of profile measuring gauges and surface inspection systems	Hexagon
Apr 18	Metrologic Group	Manufacture of three dimensional (3D) inspection software and electronics and related services for a broad range of industries	Sandvik

Source: S&P Capital IQ as of 18th January 2019, MergerMarket, Alantra Research
 Note: Latest available figures, All financials calendarized to December year-end

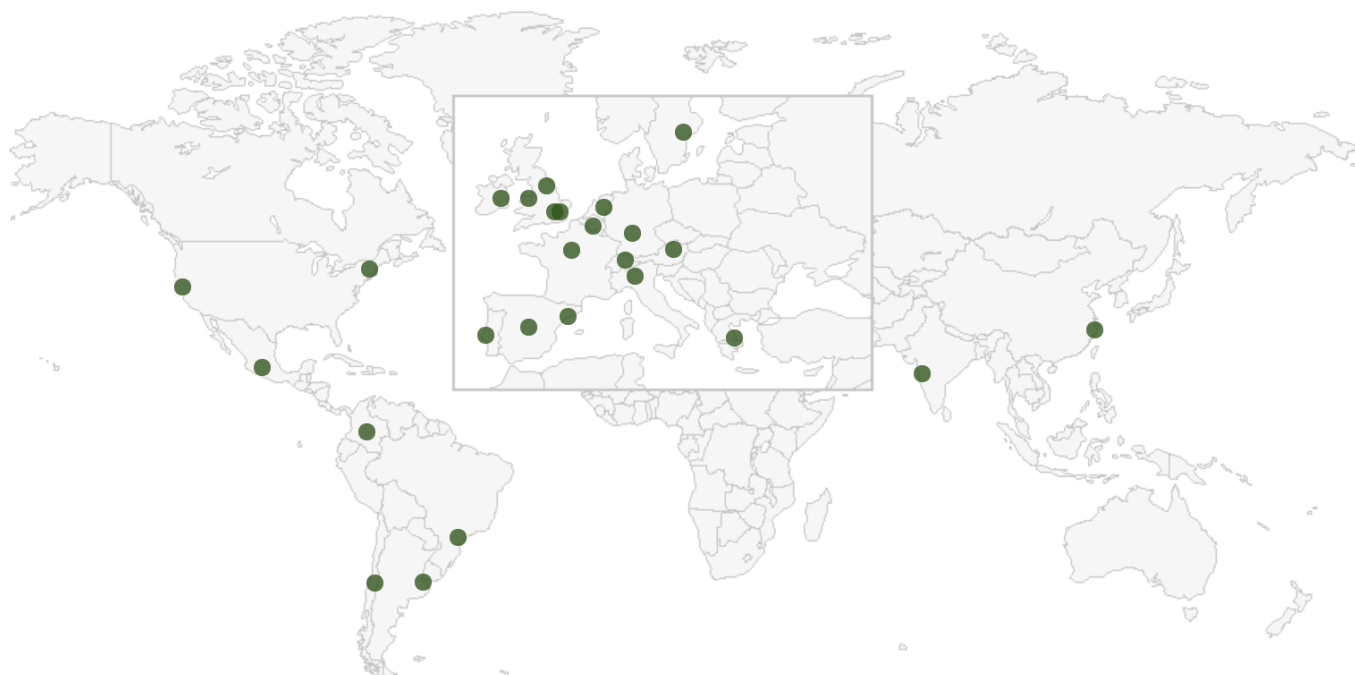
About Alantra

Alantra is a global investment banking and asset management firm focusing on the mid-market with offices across Europe, the US, Asia and Latin America.

Its Investment Banking division employs over 330 professionals, providing independent advice on M&A, debt advisory, financial restructuring, credit portfolio and capital markets transactions.

The Asset Management division comprises a team of over 80 professionals with €4.5bn of Assets under Management in Private Equity, Active Funds, Debt, Real Estate and Wealth Management.

Global Presence



ALANTRA

THE GLOBAL MID-MARKET SPECIALIST

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