

December 2023

Industry Insight: Semiconductor Sector Report

Semiconductor M&A: IoT is driving demand and M&A transactions

Introduction to the ARTHOS Semiconductor Sector Report

We are pleased to present the ARTHOS Semiconductor Sector Report for December 2023. This report provides comments and analysis on current market trends, valuation developments, and M&A transactions focusing on the Semiconductor sector.

In the current market environment, the valuations of public companies vary a lot. As always expected, growth is driving valuations, and currently, two hot segments are semiconductor equipment companies and semiconductor companies that are successfully addressing IoT applications. We consider applications in the area of connectivity, processing, and/or security relevant to IoT. Valuations in those segments are high right now, so if you are active in such segments and consider selling - from a market perspective, the timing seems excellent.

ARTHOS is an international M&A advisory firm focusing on international technology transactions. Its managing partners have closed more than 200 M&A transactions over the past 20 years. In 2022 ARTHOS and its international AICA M&A alliance partners have advised above 55 technology M&A transactions.

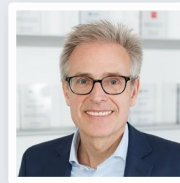
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ARTHOS TECHNOLOGY TEAM



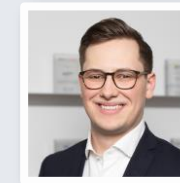
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Semiconductor M&A: IoT is driving demand and M&A transactions



Personal note

The uncertain economy has significantly impacted global M&A activities during the last 12 months, and multibillion-dollar deals - also in semi - became an exception. However, current market growth and expectations for IoT seem high. NVIDIA's share price since the beginning of 2023 increased by a factor of 3, driven by high demand for IoT applications, which is why, in this sector report, I document M&A transactions of semi-companies with impact on IoT.

My observation is that many of the recent transactions of semi-companies were IoT-relevant. I consider deals in the area of connectivity, processing and/or security to be relevant for the IoT sector. See a list of 18 transactions of the last 12 months on page 8 ff. I want to highlight that some of the targets are software companies. Infineon e.g. acquired Imagimob AI, a development platform for machine learning on edge devices, and AMD acquired Mipsology, which develops an artificial intelligence inference engine for data centers and edge.

One of the most interesting announcements this year was the joint 300mm fab investment of TSMC, Bosch, Infineon and NXP to provide advanced semi-manufacturing services called ESMC to support the needs of automotive and industrial sectors, including IoT. This is just one example of the 72 listed projects in the World Fab Forecast Report (2022 to 2024), published by SEMI in September, showing new construction projects for volume fabs with a high probability of starting construction from 2023 to 2030 (excl. expansions, R&D fabs and pilots).

This high number pushes expected demand for semi-equipment and related stock market valuations, outperforming other sub-sectors (see pages 4+5). Also, valuations for M&A transactions in this sector increased. FRT GmbH was sold in September to Camtek for \$ 100mn, while in October 2019, it was acquired for \$ 27.6mn!

Despite current limited demand in the semi industry, market indications signal a strong upswing in 2024. IoT applications are not the only driving factor but an important one. Considering the time needed to prepare a transaction, it is worthwhile thinking about it now. If you are interested in more details, don't hesitate to call!

*LTM: last twelve months

Market trends



Driven by IoT demand during LTM* NVIDIA's share price increased by a factor of 3
(Capital markets)



Global fab equipment spending for front-end to rebound to USD 97 bn in 2024
(SEMI- Sept 2023)





















Auto and GenAI will be growth drivers for semiconductor market growth in 2024
(DIGITIMES Research – Oct 2023)



72 new projects for volume fabs (greenfield and shell) with high probability starting construction from 2023 to 2030
(SEMI – Sept 2023)

Companies with significant IoT business are valued higher

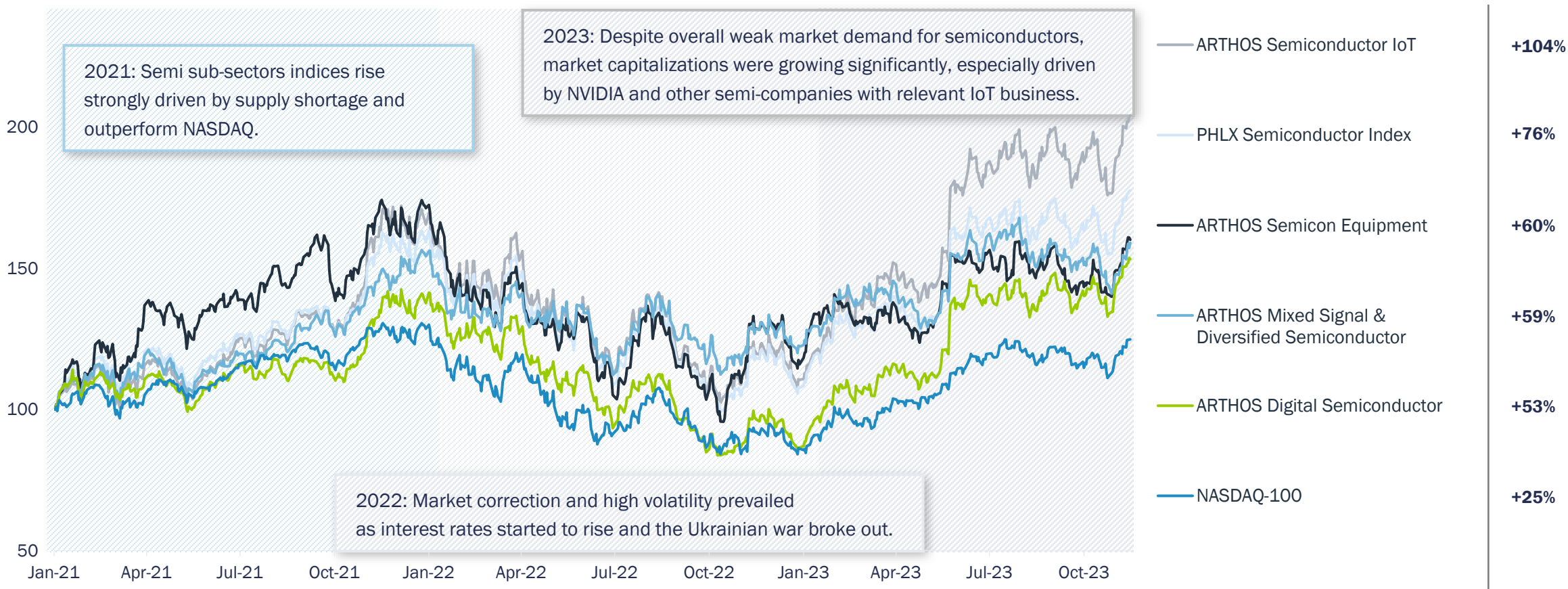
Semiconductor sub-sectors	<div>■ NTM EV/Sales*</div> <div>■ NTM EV/EBITDA*</div>	5y. EPS p.a. growth	Important players
Mixed Signal & Diversified Semiconductor Index This sub-sector includes a broad range of semiconductor companies focusing on offering analog, mixed-signal, power, sensors, MEMS, microcontrollers, modules and/or SoC solutions serving many industries including auto, consumer, defense, industrial, medical, mobile, scientific, wireline & wireless communication.	<div>■ 3,8x</div> <div>■ 12,4x</div>	10%	   
Digital Semiconductor Index This sub-sector comprises semiconductor companies focusing on leading-edge processing, memory or front-end foundry services. Valuations in this subsegment differ significantly (very high e.g. NVIDIA in contrast to foundries like TSMC or UMC) driven by expected growth.	<div>■ 4,1x</div> <div>■ 11,4x</div>	5%	   
Semiconductor IoT Index The Semiconductor IoT Index includes companies that offer MCUs, compute processors, connectivity, and/or security semiconductors. Those companies are also included in the Mixed Signal and Digital indices. However, they have higher valuations resulting from higher growth expectations of their product range.	<div>■ 4,3x</div> <div>■ 15,0x</div>	10%	    
Semiconductor Equipment (SME) Index SME companies included in this segment master high-end vision technologies, including metrology, nano inspection and lithography. This sub-segment is dominated by five very large players (logos on the right). High valuations are supported by high growth and high EBITDA margins (median 26%).	<div>■ 4,9x</div> <div>■ 17,0x</div>	15%	    

Sources: Capital IQ (as of 8 December 2023)

* NTM EV/Sales; NTM EV/EBITDA: Current enterprise value / next twelve months median estimates

All Semiconductor sector indices outperformed NASDAQ

Stock market performance of Semiconductor sub-sector indices since January 2021



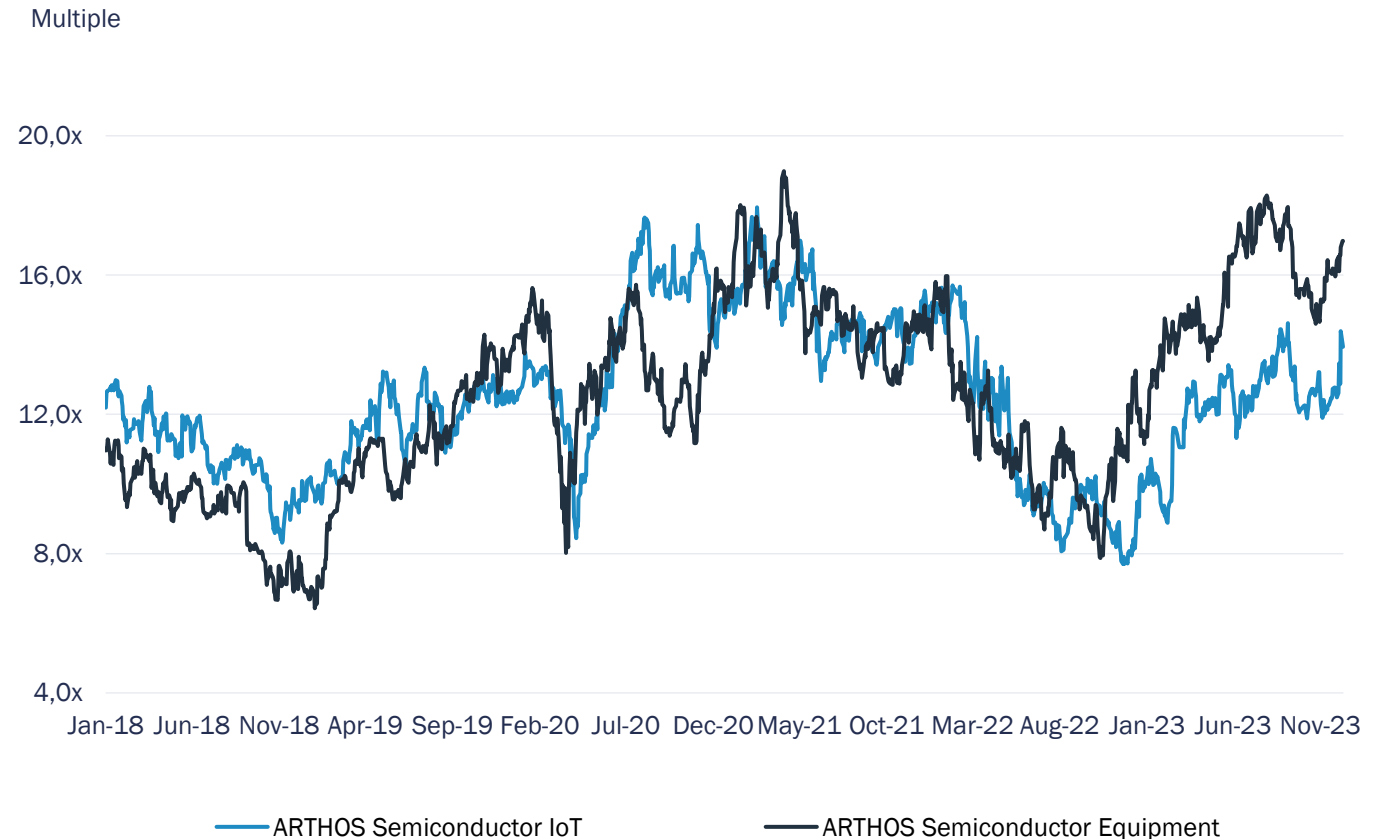
Sources: Capital IQ (as of 20 November 2023)
The composition of ARTHOS vision indices is outlined in the appendix, p. 21ff.

Semi Equipment companies currently trade even higher than Semi IoT companies

EV/NTM EBITDA multiple development

- ➔ EV/NTM EBITDA multiples of **Semi IoT as well as Semi Equipment Companies rallied in 2023, resulting in a high valuation.**
- ➔ The **median of Semi Equipment Companies is trading ~17x EV/NTM EBITDA**, significantly above 5-year average.
- ➔ The **median of the Semi IoT companies is trading at ~15x EV/NTM EBITDA**, clearly above the 5-year average. However, valuations for different companies vary significantly (see in detail on page 25). In general, it can be noticed that the bigger the IoT-relevant business is, the higher the valuation.
- ➔ The development of the median **EV/ NTM EBITDA multiples of Semi IoT and Semi Equipment companies show the ups and downs of the Semiconductor industry cycle.**
- ➔ The average valuation multiples of both Semi IoT and Semi Equipment ran pretty much **in parallel for five years.**

EV/ NTM EBITDA* multiple development since January 2018



Sources: Capital IQ (as of 20 November 2023)

*EV/NTM EBITDA: Current enterprise value / next twelve months EBITDA estimates [median]

Semiconductor IoT sub-sector analysis: Intel was the most active buyer

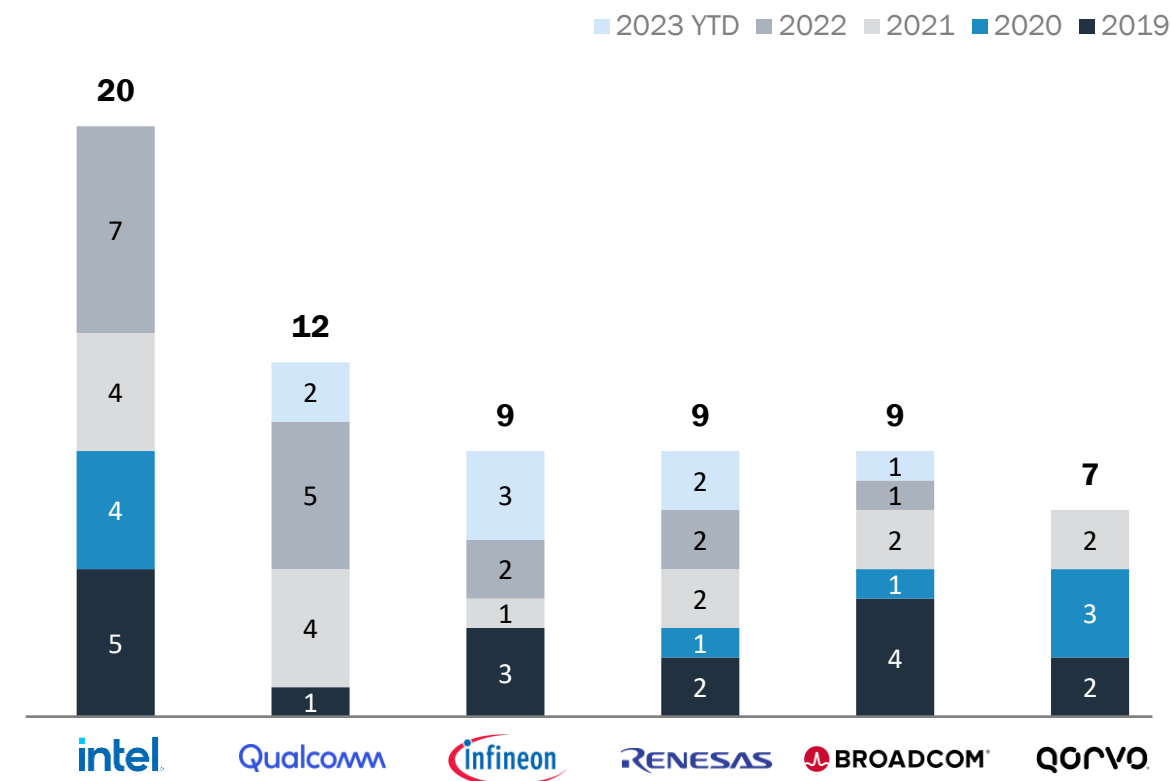
ARTHOS Semiconductor IoT peers

in €mn

Company Name	EV	LTM Sales	Exp. 5Y	EBITDA	NTM	
			EPS Growth	Margin	EV/Sales	EV/EBITDA
Advanced Micro Devices, Inc.	199.392	20.890	31%	14%	8,5x	48,0x
Ambarella, Inc.	2.100	244	20%	-47%	9,8x	NM
Arm Holdings plc	60.070	2.681	39%	12%	20,1x	50,7x
Analog Devices, Inc.	93.873	11.618	10%	51%	10,1x	22,0x
Broadcom Inc.	418.715	33.817	15%	57%	9,0x	15,0x
Impinj, Inc.	2.285	296	NM	-5%	8,0x	168,4x
Infineon Technologies AG	49.639	16.309	7%	35%	2,9x	8,5x
Intel Corporation	199.554	49.946	2%	16%	3,6x	12,3x
Lattice Semiconductor Corporation	8.115	702	14%	35%	11,9x	28,2x
MediaTek Inc.	42.251	12.099	9%	20%	2,5x	11,6x
Microchip Technology Incorporated	50.222	8.451	1%	49%	7,4x	17,5x
Nordic Semiconductor ASA	1.696	591	-9%	11%	3,4x	32,7x
NVIDIA Corporation	1.065.238	42.362	39%	49%	13,1x	26,5x
NXP Semiconductors N.V.	59.830	12.439	12%	37%	4,8x	11,8x
ON Semiconductor Corporation	32.837	7.878	9%	39%	4,4x	11,6x
Qorvo, Inc.	10.857	2.958	31%	12%	3,0x	12,1x
QUALCOMM Incorporated	145.412	33.613	11%	29%	4,1x	11,4x
Realtek Semiconductor Corp.	5.511	2.770	3%	10%	1,8x	14,2x
Renesas Electronics Corporation	29.476	9.478	14%	32%	3,1x	7,7x
Semtech Corporation	2.404	796	15%	1%	3,2x	20,8x
Silicon Laboratories Inc.	3.287	900	NM	13%	6,7x	292,2x
Skyworks Solutions, Inc.	16.602	4.509	-2%	33%	4,0x	10,6x
STMicroelectronics N.V.	38.135	16.466	4%	38%	2,3x	6,8x
Synaptics Incorporated	4.111	1.082	9%	14%	4,2x	23,8x
Texas Instruments Incorporated	137.348	17.112	2%	49%	8,6x	18,3x
u-blox Holding AG	681	677	NM	21%	1,1x	5,7x
Mean			12%	24%	6,2x	24,7x
Median			10%	25%	4,3x	15,0x
















Sources: Capital IQ (as of 11 December 2023)

No. of acquisitions per year of most active buyers*




















*Includes the published transactions according to Capital IQ (as of 20 November 2023), smaller deals are often not disclosed





Notable Semiconductor IoT deals during the last 12 months (1/3)

Date	Buyer	Target	Comment	Country
Oct 2023	AMD →		<ul style="list-style-type: none"> Advanced Micro Devices (NasdaqGS:AMD) entered into a definitive agreement to acquire Nod, a developer of gesture control and motion-tracking products The acquisition accelerates the deployment of optimized AI solutions on AMD high-performance platforms and bolsters AMD's open-source software strategy. 	
Oct 2023	 →		<ul style="list-style-type: none"> Infineon Technologies AG (XTRA:IFX) acquired 3db Access AG, a provider of Ultra-Wideband positioning solutions that enable access to vehicles, buildings, tracking tags, IoT devices Expertise of 3db in Ultra-Wideband technology accelerates Infineon's IoT roadmap for leveraging the market opportunities of secured and connected devices 	
Sep 2023	 IPO		<ul style="list-style-type: none"> On September 18, 2023, SoftBank Group Corp. sold 95.5 million shares of the U.K.-based company ARM (NasdaqGS:ARM) in the IPO at \$ 51 a piece, raising \$ 4.87 bn at a valuation of \$ 54bn; since shares are trading slightly above and below the IPO price SoftBank, after IPO, holds ~ 90% of arm, which is the World Leader in low-power CPU Technology 	
Aug 2023	AMD →		<ul style="list-style-type: none"> Advanced Micro Devices (NasdaqGS:AMD) acquired Mipsology, a developer of AI inference, optimization solutions and tools tailored for AMD hardware Mipsology will join the AMD AI Group to help further accelerate their customer engagements and expand AI software development capabilities 	
Aug 2023	 →		<ul style="list-style-type: none"> Nordic Semiconductor (OB:NOD) entered into an agreement to acquire AI/ML technology assets in the US from Atlazo, Inc. Completion of the transaction is expected by the end of 2023 Atlazo enables new level of always-on AI/ML capabilities and technologies that will strengthen the core business of Nordic Semiconductor 	
Aug 2023	 →		<ul style="list-style-type: none"> Renesas (TSE:6723) and Sequans (NYSE:SQNS) have signed a Memorandum of Understanding (MoU) to acquire Sequans shares in a tender offer valued at approximately \$ 250mn Upon completion (Sequans' board approval is pending) Renesas intends to integrate Sequans' cellular connectivity products and IP cores into its core product portfolio 	

















Notable Semiconductor IoT deals during the last 12 months (2/3)

Date	Buyer	Target	Comment	Country
Jul 2023	 NVIDIA	→  OMNI ^{ML}	<ul style="list-style-type: none"> ➤ NVIDIA Corporation (NasdaqGS:NVDA) acquired OmniML, a developer of an artificial intelligence (AI) platform for hardware and network edge devices ➤ Acquisition enables NVIDIA to enhance AI Chips for autonomous vehicles, drones, industrial robot and further their efforts to build smaller and more power-efficient AI models 	
Jun 2023	 BROADCOM	→  ConnectALL	<ul style="list-style-type: none"> ➤ Broadcom Inc. (NasdaqGS:AVGO) acquired ConnectALL, a provider of a value stream platform ➤ Combination of ValueOps and ConnectALL's complementary technology will allow customers to connect and integrate a variety of third-party software tools and platforms 	
May 2023	 infineon	→  imagimob	<ul style="list-style-type: none"> ➤ Infineon (XTRA:IFX) acquired Imagimob, a developer of artificial intelligence products for movement analytics of things and people ➤ Acquisition enables Infineon to further expand its portfolio of advanced sensors and IoT solutions 	
May 2023	 CEVA	→  RealSpace	<ul style="list-style-type: none"> ➤ CEVA, Inc. (NasdaqGS:CEVA) acquired the RealSpace® 3D Spatial Audio Business of VisiSonics Corporation for an implied EV of \$3.6 million ➤ Expands CEVA's application software portfolio for embedded systems targeting hearables and other consumer IoT markets 	
May 2023	 Qualcomm	→  Autotalks	<ul style="list-style-type: none"> ➤ Qualcomm (NASDAQ:QCOM) entered into a definitive agreement to acquire Autotalks, a fabless semiconductor company for an implied EV around \$ 342mn ➤ With the acquisition Qualcomm expands its automotive-related business with chips used in crash-prevention technology in vehicles 	
Apr 2023	 MiTAC	→  intel Data Center Solutions Premier Support Partners	<ul style="list-style-type: none"> ➤ MiTAC Holdings Corporation (TWSE:3706) completed the acquisition of Data Center Solutions Group from Intel Corporation (NasdaqGS:INTC) ➤ Acquisition of datacenter solution product lineup enhances MiTAC's product portfolio and service offerings ranging from motherboards and barebones servers to Intel Data Center blocks 	




















Notable Semiconductor IoT deals during the last 12 months (3/3)

Date	Buyer	Target	Comment	Country
Apr 2023	SONY → 	Raspberry Pi	<ul style="list-style-type: none"> ➤ Sony Corporation (TSE:6758) announced a strategic minority investment of ~10% in Raspberry Pi, a manufacturer of programmable computing devices for \$ 45mn ➤ Investment cements the relationship between the two companies, to provide a development platform for Sony's edge AI devices 	
Mar 2023	RENESAS → 	Panthronics	<ul style="list-style-type: none"> ➤ Renesas (TSE:6723) entered into a definitive agreement to acquire Panthronics AG, a developer of wireless connectivity technology and products for security, power, and IOT applications ➤ Acquisition will enrich connectivity technology, extending its reach into high-demand Near-Field Communication applications in fintech, IoT, asset tracking, wireless charging, and automotive 	
Feb 2023	indie SEMICONDUCTOR → 	SILICON radar	<ul style="list-style-type: none"> ➤ Symeo, a subsidiary of indie Semiconductor (NasdaqCM:INDI) acquired Silicon Radar, a provider of high frequency circuits for radar and wireless communication for an implied EV of \$ 18mn ➤ Acquisition adds automotive radar capabilities for in-cabin and exterior vehicle sensing applications 	
Feb 2023	Qualcomm → POLTE		<ul style="list-style-type: none"> ➤ Qualcomm (NASDAQ:QCOM) acquired the assets of PoLTE Corporation, a provider of Cloud Location over Cellular (C-LoC) technology ➤ Acquisition adds proprietary positioning techniques and a robust global signal database consisting of approximately 8 billion wireless MAC Addresses and hundreds of millions of cells 	
Feb 2023	indie SEMICONDUCTOR → 	GEO Semiconductor	<ul style="list-style-type: none"> ➤ indie Semiconductor (NasdaqCM:INDI) entered into definitive agreement to acquire GEO Semiconductor, a private fabless semiconductor supplier for \$ 180mn ➤ Acquisition of GEO adds scale to indie's Image Processing program and enables true sensor fusion of Radar, LiDAR, Ultrasound and Computer Vision solutions in ADAS applications 	
Nov 2022	NXP → 	PLSense Ultra-low Power Technology	<ul style="list-style-type: none"> ➤ NXP Semiconductors N.V. (NasdaqGS:NXPI) acquired PLSense, a developer of ultra-low power semiconductor chips technology for IoT & medical devices, for \$ 22.1mn ➤ Strategic acquisition for the development of ultra-low-power solutions in next-generation microcontrollers 	

GaN and other notable international semiconductor deals during the last 12 months

Date	Buyer	Target	Comment	Country
Aug 2023	 → 	<ul style="list-style-type: none">➤ MACOM (NasdaqGS:MTSI) entered into a definitive agreement to acquire the radio frequency business of Wolfspeed, including a portfolio of GaN on SiC products for an implied EV of \$ 127mn➤ Acquisition expands MACOM's RF engineering capabilities, technology and products for Telecommunications, Industrial and Defense and Datacenter industries		
Aug 2023	 → 	<ul style="list-style-type: none">➤ Allegro MicroSystems (NasdaqGS:ALGM) signed a definitive agreement to acquire Crocus Technology, a supplier of magnetic sensors and embedded memory solutions for \$ 420mn➤ Acquisition brings technology and products well suited to serve high-growth applications in e-Mobility, Clean Energy and Automation		
Jun 2023	 → 	<ul style="list-style-type: none">➤ Microtest agreed to acquire RoodMicrotec (ENXTAM:ROOD), a provider of semiconductor supply and quality services in the field of application-specific integrated circuits for € 26mn➤ Acquisition drives synergies to create an integrated European group specialised in manufacturing ATE, OSAT and fabless microchips		
Mar 2023	 → 	<ul style="list-style-type: none">➤ Infineon Technologies (XTRA:IFX) signed a definitive agreement to acquire GaN Systems, a leader in the development of GaN-based solutions for energy conversion for \$ 830mn➤ Acquisition strengthens Infineon's leadership in power systems, based on silicon, silicon carbide or gallium nitride		
Jan 2023		<ul style="list-style-type: none">➤ Navitas Semiconductor Corporation (NasdaqGM:NVTX) completed the acquisition of the remaining minority interest in its silicon control IC joint venture for \$ 27mn➤ In 2021, Navitas and Halo created a joint venture to develop application-specific silicon controllers optimized to work in combination with Navitas GaN ICs		
Nov 2022	 → 	<ul style="list-style-type: none">➤ On November 7, 2022, the private Equity Japan Industrial Partners, ROHM (TSE:6963) and Suzuki (TSE:7269) made an offer to acquire 78.56% stake in Toshiba Corporation (TSE:6502)➤ Transaction was closed in September 2023 for \$ 2.2bn. Rohm and Toshiba are both major manufacturers of power management chips, while Suzuki buys automotive batteries from Toshiba		

Notable international Fab & Foundry deals during the last 12 months (1/2)

Date	Buyer	Target	Comment	Country
Nov 2023		→ 	<ul style="list-style-type: none"> ➤ Vishay Intertechnology,(NYSE: VSH) and Nexperia B.V. entered into an agreement that Vishay will acquire Nexperia's Newport wafer fab and operations located in Newport U.K. for \$ 177mn ➤ Nexperia wanted to continue to invest into the fab acquired in 2021, however, investment plans have been cut short by a divestment order made by the UK Government in November 2022 	
May 2023			<ul style="list-style-type: none"> ➤ Duchâtelet family and De Winter-Chombar family acquired 48.42% stake in X-FAB Silicon Foundries (ENXTPA:XFAB), an semiconductor technology foundry. for € 570mn ➤ The families confirmed that this does not mean that, at present, they would differ on X-FAB's strategy and priorities and the commitment to the Company remains unchanged. 	
Sep 2023		→ 	<ul style="list-style-type: none"> ➤ Intel (NasdaqGS:INTC) agreed to sell a stake of 10% in the IMS business to TSMC (TWSE:2330) for \$ 430mn. Intel already sold a 20% stake in IMS earlier this year to Bain Capital ➤ Vienna-based IMS produces tools used in the production of advanced semiconductors and develops multi-beam mask writing tools, applied in extreme ultraviolet lithography (EUV) 	
Aug 2023	   		<ul style="list-style-type: none"> ➤ TSMC (TWSE: 2330), Bosch, NXP (NasdaqGS:NXPI) and Infineon (XTRA:IFX) announced a plan to jointly invest in European Semiconductor Manufacturing Company (ESMC) in Dresden, Germany ➤ ESMC will be 70% owned by TSMC, with Bosch, Infineon, and NXP each holding 10% equity stake with the plan to build 300-millimetre fab for semiconductor manufacturing 	
Jun 2023		→ 	<ul style="list-style-type: none"> ➤ Littelfuse entered into an agreement to acquire Elmos wafer for € 93mn as a possible sale to Chinese investors was prohibited by German authorities ➤ Acquisition expands capacity in the field of power semiconductors for applications in climate technology such as renewables, energy storage and charging infrastructure for electromobility 	
Apr 2023		→ 	<ul style="list-style-type: none"> ➤ Bosch completed the acquisition of a production facility of the U.S. chipmaker TSI Semiconductors Corporation based in Roseville, which will be named Robert Bosch Semiconductor LLC ➤ With this acquisition, Bosch extends their established semiconductor operations with manufacturing capabilities for SiC products in the US 	

Notable international Fab & Foundry deals during the last 12 months (2/2)

Date	Buyer	Target	Comment	Country
Feb 2023	  		<ul style="list-style-type: none"> ➤ MACOM (NasdaqGS:MTSI) completed the acquisition of Assets and Operations from Ommic, a semiconductor manufacturer with expertise in wafer fabrication for € 39mn ➤ Acquisition increases MACOM's focus on the European markets, expands their wafer production capability and the product offerings to higher millimeter-wave frequencies 	
May 2023	  		<ul style="list-style-type: none"> ➤ GlobalWafers Co., Ltd. (TPEX:6488) agreed to acquire Crystalwise Technology Inc. (TPEX:4944), a manufacturer and seller of hard substrates for \$ 36mn ➤ Acquisition expands the expertise of GlobalWafer for LT and LN wafers, which are crucial substrates for SAW Filters used in applications for wireless communication and satellites 	
Feb 2022	  		<ul style="list-style-type: none"> ➤ On February 15, 2022, Intel (NasdaqGS:INTC) entered into a definitive agreement to acquire Tower Semiconductor (NasdaqGS:TSEM) for an implied EV of \$ 5.4bn ➤ After the necessary approval from Chinese competition regulators failed to materialise by the targeted deadline for completing the takeover, Intel abandoned the deal on August 16, 2023 	

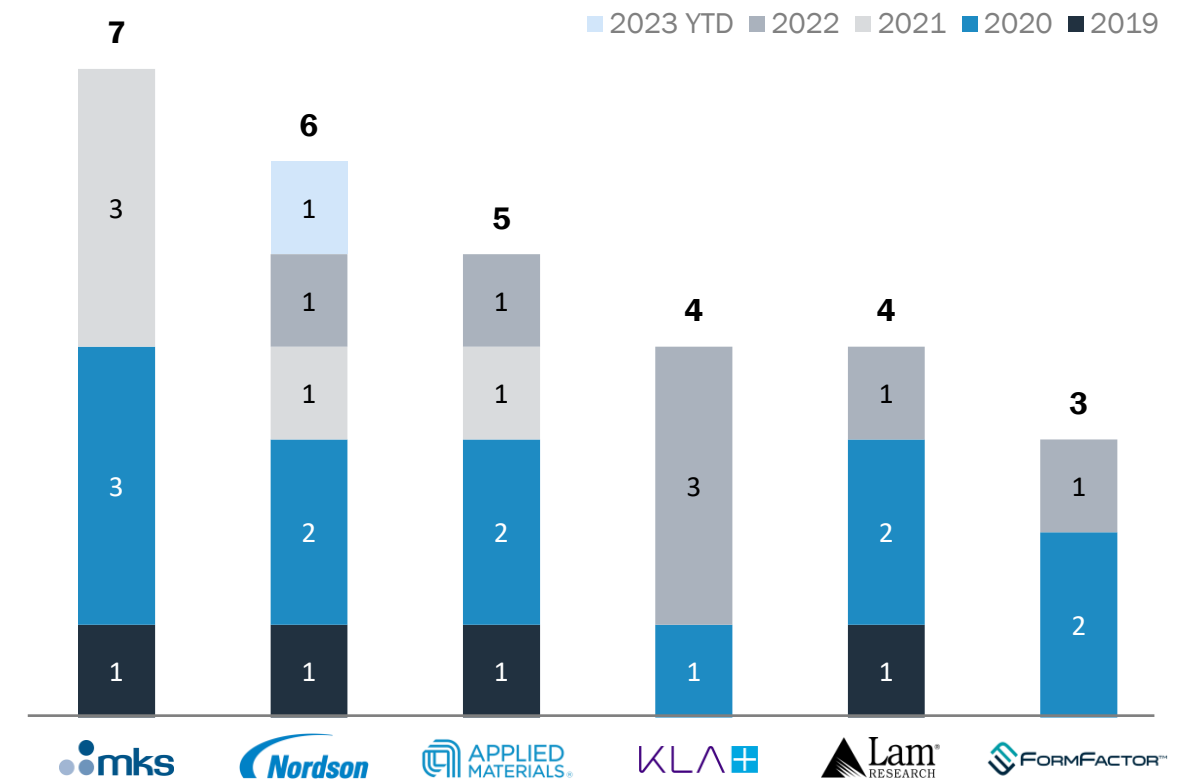
Semiconductor Equipment sub-sector analysis: Nordson is a quite active buyer

ARTHOS Semiconductor Equipment peers

in € mn

Company Name	EV	LTM Sales	Annual Exp. 5Y EPS Growth	EBITDA Margin	NTM	
					EV/Sales	EV/EBITDA
Advanced Process Systems Corporation	155	359	NM	14%	0,4x	3,7x
AIXTRON SE	3.848	599	20%	26%	5,3x	17,3x
Applied Materials, Inc.	119.582	25.035	10%	31%	4,9x	16,3x
ASML Holding N.V.	260.135	26.752	20%	35%	9,7x	28,1x
Camtek Ltd.	2.442	292	15%	24%	7,0x	24,6x
Circuit Fabology Microelectronics Equip	1.263	99	NM	20%	8,6x	33,6x
Disco Corporation	20.195	1.715	10%	41%	9,7x	21,4x
EO Technics Co., Ltd.	1.092	246	NM	13%	3,8x	17,0x
FormFactor, Inc.	2.625	624	20%	5%	4,1x	23,2x
KLA Corporation	73.486	9.607	11%	41%	7,9x	18,5x
Lam Research Corporation	90.076	14.861	9%	31%	6,4x	20,8x
Lasertec Corporation	19.408	1.103	25%	39%	14,3x	30,8x
MKS Instruments, Inc.	9.296	3.605	0%	22%	2,8x	12,7x
NEXTIN, Inc.	477	63	NM	46%	4,8x	7,6x
Nordson Corporation	13.374	2.353	31%	30%	5,2x	16,4x
Onto Innovation Inc.	6.039	803	NM	26%	7,4x	25,9x
Photronics, Inc.	1.122	793	NM	37%	1,3x	3,6x
PVA TePla AG	415	265	24%	15%	1,5x	9,0x
SÜSS MicroTec SE	459	335	19%	12%	1,5x	11,4x
Tokyo Electron Limited	66.388	11.675	6%	27%	5,5x	19,1x
Tokyo Seimitsu Co., Ltd.	1.971	881	6%	25%	2,3x	9,6x
TOWA Corporation	1.010	293	NM	20%	2,8x	13,1x
Veeco Instruments Inc.	1.546	611	NM	13%	2,4x	14,0x
Mean			15%	26%	5,2x	17,3x
Median			15%	26%	4,9x	17,0x



















No. of acquisitions per year of most active buyers*





Sources: Capital IQ (as of 11 December 2023)

*Includes the published transactions according to Capital IQ (as of 20 November 2023), smaller deals are often not disclosed

Notable international Semiconductor Equipment deals during the last 12 months (1/2)

Date	Buyer	Target	Comment	Country
Nov 2023	 Novanta	→ 	<ul style="list-style-type: none"> Novanta Inc. (NasdaqGS:NOVT) entered into an agreement to acquire Motion Solutions (Bearing Engineers), a manufacturer of semiconductor equipment for approximately \$ 190mn Motion Solutions' business adds complementary motion subsystem solutions to Novanta's product portfolio, enabling greater exposure to leading OEM customers 	
Nov 2023	 FOCUSLIGHT <small>Never stop exploring</small>	→ 	<ul style="list-style-type: none"> Focuslight (SHSE:688167) signed an agreement to acquire SÜSS MicroOptics SA, a manufacturer of micro-optical components from SÜSS MicroTec SE (XTRA:SMHN) for € 75.5mn Focuslight and SÜSS MicroOptics have complementary product portfolios, and both serve customers in the automotive and medical technology sectors, among others. 	
Oct 2023	 Cohu	→ 	<ul style="list-style-type: none"> Cohu (NasdaqGS:COHU) completed the acquisition of Eqpitest Engineering, a provider of semiconductor test contactors and other consumables with a revenue of approximately \$ 20mn Enhances Cohu's machining capabilities and manufacturing expertise and expands engineering capacity as well as customer presence 	
Sep 2023	 Camtek <small>See Beyond</small>	→ 	<ul style="list-style-type: none"> Camtek Ltd. (NasdaqGM:CAMT) signed an agreement to acquire FRT GmbH, a provider of inspection and 3D metrology equipment from FormFactor, Inc. (NasdaqGS:FORM) for \$ 100mn With the addition of FRT's unique hybrid multi-sensor SurfaceSens technology, Camtek will be able to provide broader and more comprehensive solutions for inspection and metrology 	
Jun 2023	 Gimv	→ 	<ul style="list-style-type: none"> Gimv acquires a majority stake in ERS electronic, a provider of thermal management services for semiconductor manufacturing, after the German government blocked prospective Chinese investment in November 2022 Gimv will support ERS on its growth trajectory while allowing the company to retain its autonomy 	
Feb 2023	 Veeco	→ 	<ul style="list-style-type: none"> Veeco Instruments (NasdaqGS:VECO) completed the acquisition of Epiluvac, a manufacturer of chemical vapor deposition epitaxy systems for advanced silicon carbide applications for \$ 56mn With this acquisition, Veeco accelerates the penetration into the high growth silicon carbide epitaxy equipment market 	

Notable international Semiconductor Equipment deals during the last 12 months (2/2)

Date	Buyer	Target	Comment	Country
Jan 2023	 Cohu	→ 	<ul style="list-style-type: none"> Cohu (NasdaqGS:COHU) completed the acquisition of MCT Worldwide, developer of strip and lead frame based test handler solutions for the semiconductor industry for \$ 27mn MCT adds strip, film-frame and laser marking to Cohu's product portfolio, and critical technologies that will accelerate development into the growing advanced package test market 	
Jan 2023	 AMTECH GROUP	→ 	<ul style="list-style-type: none"> Amtech Systems (NasdaqGS:ASYS) completed the acquisition of Entrepix, a globally recognized expert in chemical mechanical polishing (CMP) and wafer cleaning for \$ 39mn Entrepix is expected to expand Amtech's market opportunity and accelerate growth in the front-end wafer processing market, including silicon carbide applications 	
Jan 2023	 RORZE	→ 	<ul style="list-style-type: none"> Rorze (TSE:6323) completed the acquisition of 51.6% stake in IAS, a manufacturer of CP-OES/ICP-MS devices used in the analysis of semiconductor materials, for \$ 44mn Addition of IAS's technology related to ultra trace metal analysis will further accelerate the development of the Group's products 	
Nov 2022	 PVA TePla	→ 	<ul style="list-style-type: none"> PVA TePla AG (XTRA:TPE) completed the acquisition of remaining 90% stake in MPA Industrie. PVA TePla had already held a 10% stake in the process plant manufacturer since the end of 2020 Acquisition strengthens the PVA TePla Group's industrial plant engineering with process know-how for silicon carbide components and layers in the industrial and semiconductor sectors 	
Nov 2022	 Lam RESEARCH	→ 	<ul style="list-style-type: none"> Lam Research (NasdaqGS:LRCX) completed the acquisition of SEMSYSCO Semiconductor Systems, a manufacturer of wet process equipment for semiconductor and related industries With the acquisition, Lam is expanding its expertise in advanced packaging, for high-performance computing (HPC), artificial intelligence (AI) and other data-intensive applications 	
Sep 2022	 Kulicke & Soffa		<ul style="list-style-type: none"> Kulicke and Soffa Industries, Inc. (NasdaqGS:KLIC) completed the acquisition of Advanced Jet Automation Co., a manufacturer micro dispensing equipment and solutions Acquisition broadens the Company's existing semiconductor, electronic assembly and advanced display portfolio across new growth areas such as mini and micro LED solutions 	

ARTHOS – International Tech M&A advisory

ARTHOS – International tech M&A advisory firm with a focus on technology transactions



Partner-led and global

ARTHOS Corporate Finance is an independent, owner-managed M&A advisory firm based in Munich and part of a global alliance of 40 M&A advisory firms with 200 managing partners. All our projects are managed by an experienced managing partner who has successfully closed more than 100 company disposals, acquisitions or fund raisings. The majority of ARTHOS transactions have a volume of between 10 and 100 million euros.



M&A 360°

With our 360° approach we can advise our customers in a targeted and comprehensive manner – from the initial planning through the detailed preparation to the efficient execution of a transaction. That is why we see ourselves not only as deal makers, but rather as competent M&A experts, experienced process managers and financial advisers for our client's long-term goals.



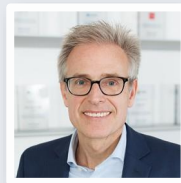
Technology

Our focus on digital media, information technology and high-tech industries provides several powerful advantages to our customers: we know the M&A terms and conditions, business models and decision-makers within these industry sectors. With this knowledge, we are able to implement sustainable, creative solutions. This is why our M&A projects achieve above average results.

ARTHOS TECHNOLOGY TEAM



Arne Tödt
Managing Partner



Arno Pätzold
Managing Partner



Moritz Böck
Senior Analyst



Christian Thiel
Analyst

ARTHOS – 20-year track record in international technology M&A transactions



KETEK
Munich, Germany

has sold assets to



Worldwide leading 3D-wideband
Silicon Photomultiplier Technology

MaxxVision

Stuttgart, Germany

has been acquired by



Selling to a strategic investor targeting
buy and build in Vision Technology

tacterion

Munich, Germany

has received growth capital from



Gütersloh, Germany

Creating the leading tactile sensor company
to enable the tactile internet of the future

eurotech

UNLEASHING THE POWER OF THE EDGE
Amaro, Italy

has acquired



Accelerating Eurotech's growth strategy
in the Edge Computing market in AIoT



Munich, Germany

has been acquired by



Accelerating market presence
in Structured Light Technology



has acquired



Extending ISS' software-based detection
solutions portfolio with ALPR technology



Stockholm, Sweden

has acquired



Expansion in industry 4.0 conveyor systems
for production process optimization



Munich, Germany

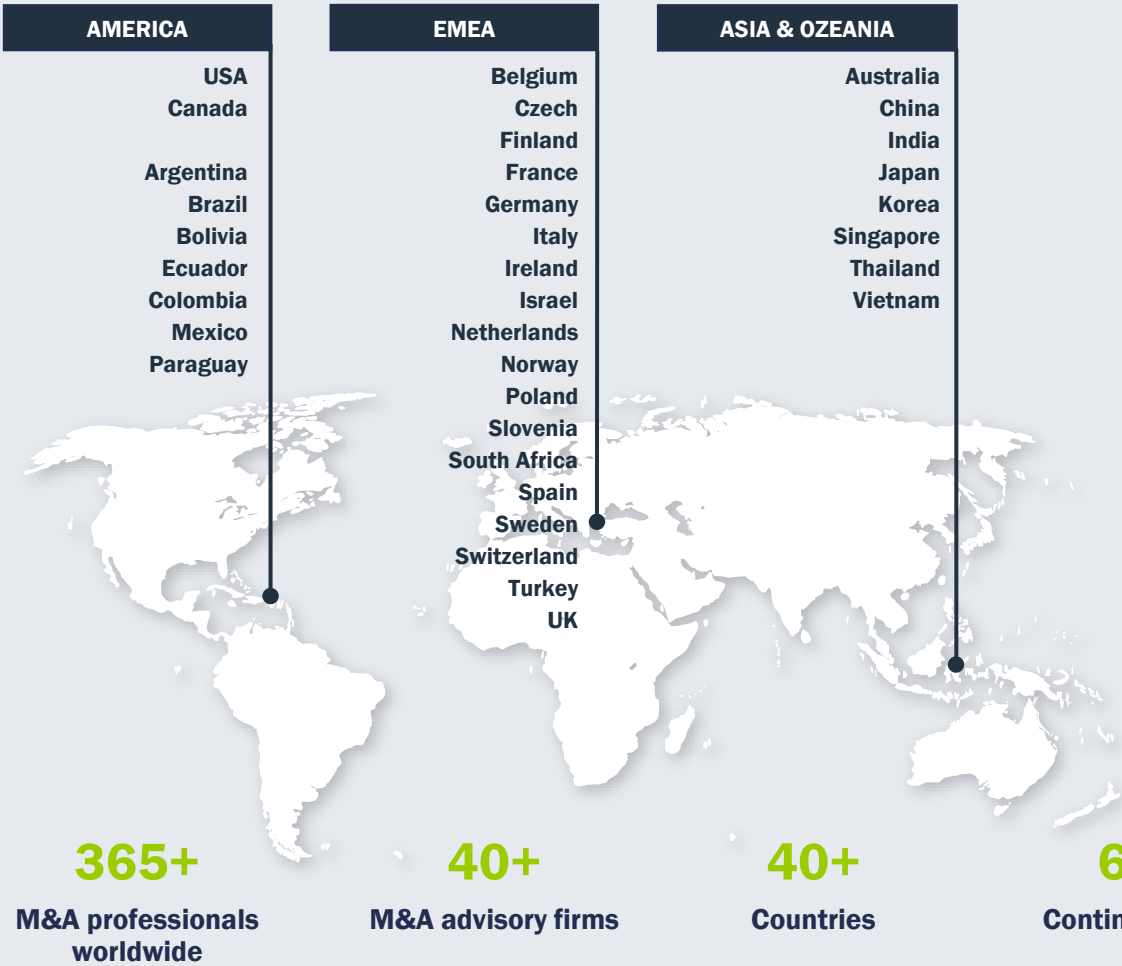
has acquired



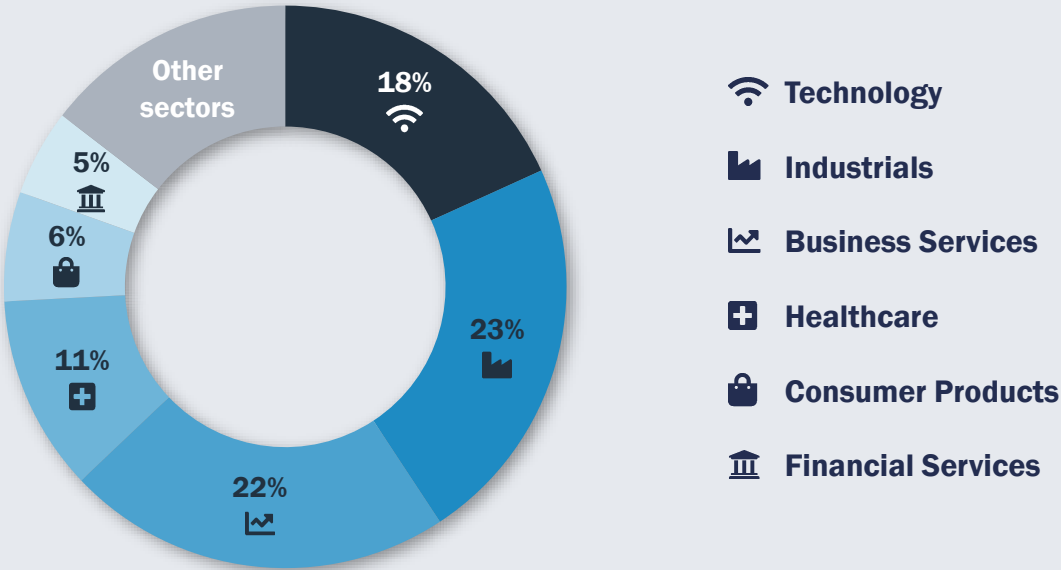
Energy-efficient integrated
audio amplifier solutions

ARTHOS worldwide – Partner within the global AICA alliance

Global reach – international cooperation



Transactions by sector in 2022



Contact us for technology M&A advice

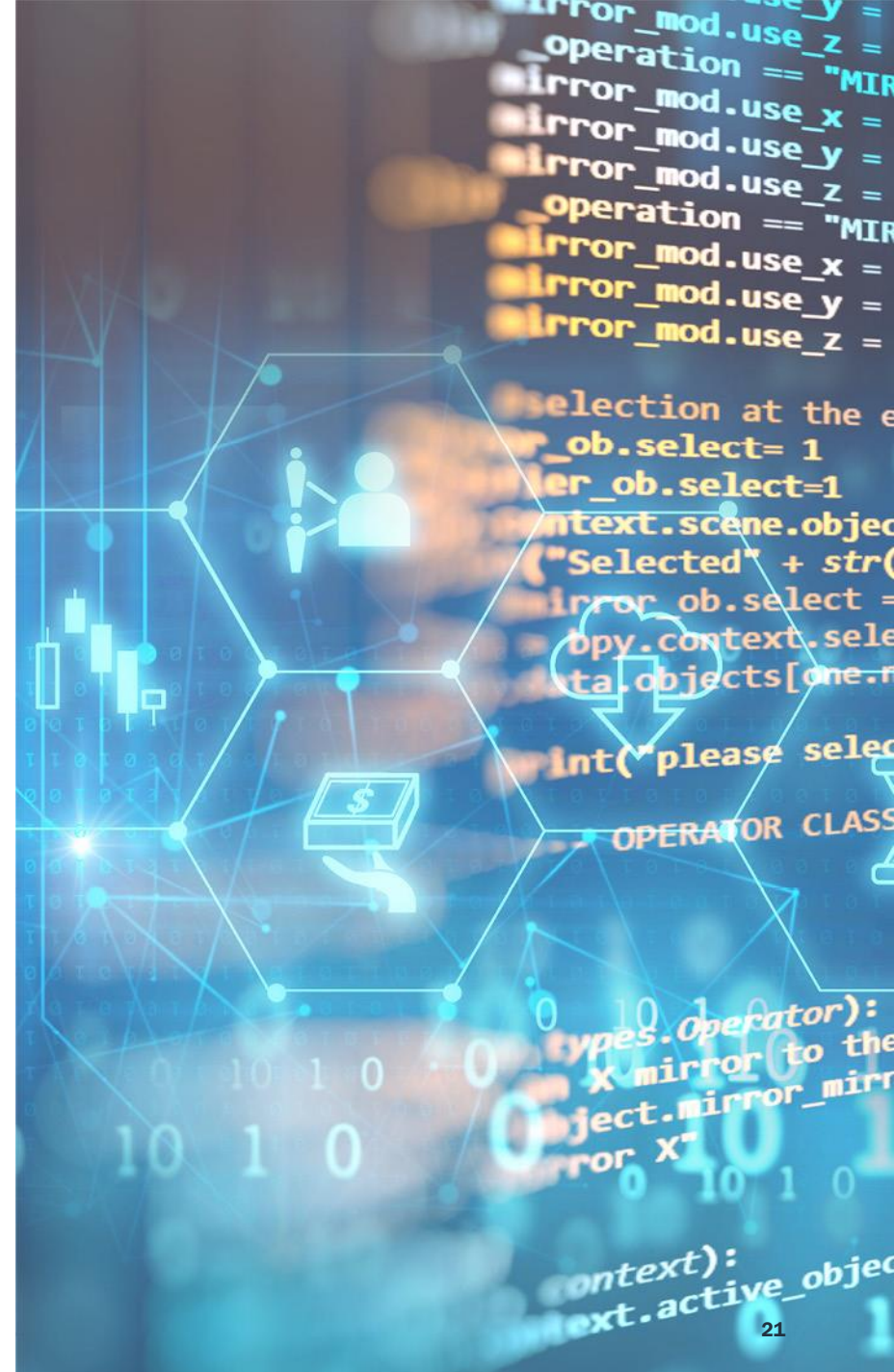


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Appendix: Public comps by sub-sector

Public comps – Mixed Signal & Diversified Semiconductor

Currency in EUR

Company Name	HQ	Employees	Share Price €	Market Cap € mn	EV € mn	Cash € mn	NTM		Exp. 5Y EPS Growth	LTM Margin		NTM Multiples	
							Sales	EBITDA		Gross	EBITDA	EV/Sales	EV/EBITDA
Allegro MicroSystems, Inc.	United States	4.687	25,5	4.902	4.601	350	975	316	9%	57%	30%	4,7x	14,5x
Analog Devices, Inc.	United States	26.000	177,0	87.825	93.873	905	9.302	4.258	10%	64%	51%	10,1x	22,0x
Broadcom Inc.	United States	20.000	958,0	395.407	418.715	13.396	46.695	27.946	15%	74%	57%	9,0x	15,0x
Cirrus Logic, Inc.	United States	1.702	75,8	4.083	3.900	293	1.567	387	2%	50%	21%	2,5x	10,1x
Elmos Semiconductor SE	Germany	1.200	76,7	1.306	1.365	60	603	198	13%	48%	32%	2,3x	6,9x
Infineon Technologies AG	Germany	58.590	37,2	48.115	49.639	3.590	16.883	5.833	7%	46%	35%	2,9x	8,5x
MACOM Technology Sol, Inc.	United States	1.500	81,6	5.871	5.875	486	612	207	10%	59%	26%	9,6x	28,3x
Magnachip Semicon Corp.	South Korea	897	6,3	245	94	157	229	FALSE	NM	23%	(15%)	0,4x	NM
Marvell Technology, Inc.	United States	7.433	50,7	43.839	47.280	685	5.400	1.969	14%	42%	18%	8,8x	24,0x
MediaTek Inc.	Taiwan	17.449	27,7	44.143	42.251	3.503	14.574	3.353	9%	48%	20%	2,9x	12,6x
Melexis NV	Belgium	2.000	89,1	3.539	3.639	31	1.000	315	5%	46%	32%	3,6x	11,6x
Monolithic Power Systems, Inc.	United States	3.247	551,4	26.419	25.456	985	1.773	656	21%	57%	30%	14,4x	38,8x
Nordic Semiconductor ASA	Norway	1.530	9,6	1.870	1.696	216	494	52	(9%)	52%	11%	3,4x	32,7x
NXP Semiconductors N.V.	Netherlands	34.500	205,3	52.916	59.830	3.819	12.566	5.050	12%	57%	37%	4,8x	11,8x
ON Semiconductor Corporation	United States	31.055	73,9	31.831	32.837	2.531	7.411	2.829	9%	48%	39%	4,4x	11,6x
Power Integrations, Inc.	United States	831	75,7	4.344	4.012	337	392	80	(15%)	52%	20%	10,2x	50,2x
Qorvo, Inc.	United States	8.500	98,7	9.608	10.857	668	3.645	894	31%	37%	12%	3,0x	12,1x
Renesas Electronics Corporation	Japan	21.252	15,5	27.461	29.476	2.508	9.556	3.825	14%	57%	32%	3,1x	7,7x
ROHM Co., Ltd.	Japan	23.754	17,9	6.901	7.175	1.884	3.363	984	11%	36%	28%	2,1x	7,3x
Semtech Corporation	United States	2.248	19,2	1.234	2.404	138	762	116	15%	51%	1%	3,2x	20,8x
Silicon Laboratories Inc.	United States	1.964	114,3	3.633	3.287	394	488	11	NM	60%	13%	6,7x	293,2x
SiTime Corporation	United States	377	104,4	2.345	1.824	537	162	12	NM	59%	(45%)	11,3x	155,6x
Skyworks Solutions, Inc.	United States	9.750	99,3	15.885	16.602	694	4.177	1.567	(2%)	44%	33%	4,0x	10,6x
STMicroelectronics N.V.	Switzerland	51.370	44,6	40.195	38.135	4.775	16.298	5.642	4%	47%	38%	2,3x	6,8x
Texas Instruments Incorporated	United States	33.000	148,9	135.232	137.348	8.454	15.997	7.493	2%	64%	49%	8,6x	18,3x
u-blox Holding AG	Switzerland	1.339	98,8	703	681	97	610	120	NM	48%	21%	1,1x	5,7x
Mean									9%	51%	24%	5,4x	22,6x
Median									10%	51%	29%	3,8x	12,4x

Abbreviations:

HQ: Headquarter; NTM: Next twelve months; EPS: Earnings per share; NTM multiples - EV/Estimates: EV as of 8 December 2023 divided by NTM estimates (mean of analysts)

EV: Enterprise Value = share price * outstanding shares + total debt + preferred stock + minority interest – cash & short-term investments

Sources: Capital IQ (as of 11 December 2023)

Public comps – Digital Semiconductor

Currency in EUR

Company Name	HQ	Employees	Share Price €	Market Cap € mn	EV € mn	Cash € mn	NTM		Exp. 5Y EPS Growth	LTM Margin		NTM Multiples	
							Sales	EBITDA		Gross	EBITDA	EV/Sales	EV/EBITDA
Advanced Micro Devices, Inc.	United States	25.000	125,1	202.113	199.392	5.466	23.359	4.157,1	31%	50%	14%	8,5x	48,0x
Ambarella, Inc.	United States	937	57,2	2.302	2.100	210	215	FALSE	20%	60%	(47%)	9,8x	NM
Arm Holdings plc	United Kingdom	5.963	60,4	61.924	60.070	2.084	2.988	1.184,4	39%	95%	12%	20,1x	50,7x
Cambricon Technologies Corporation	China	980	20,0	8.304	8.092	229	153	FALSE	NM	39%	(209%)	52,9x	NM
Giga Device Semiconductor Inc.	China	1.564	12,1	8.098	6.946	1.167	866	160,2	2%	33%	11%	8,0x	43,4x
GLOBALFOUNDRIES Inc.	United States	14.000	51,5	28.501	27.945	2.734	6.920	2.590,6	(2%)	29%	35%	4,0x	10,8x
Intel Corporation	United States	131.900	41,5	174.786	199.554	23.648	55.897	16.259,0	2%	38%	16%	3,6x	12,3x
Lattice Semiconductor Corporation	United States	949	59,4	8.205	8.115	108	680	288,1	14%	70%	35%	11,9x	28,2x
Microchip Technology Incorporated	United States	22.600	82,8	44.776	50.222	242	6.746	2.862,9	1%	68%	49%	7,4x	17,5x
Micron Technology, Inc.	United States	43.000	72,4	79.918	83.233	8.846	20.440	6.297,1	(11%)	(9%)	14%	4,1x	13,2x
Nanya Technology Corporation	Taiwan	1.237	2,1	6.633	5.226	1.776	1.384	509,6	(12%)	(8%)	10%	3,8x	10,3x
Novatek Microelectronics Corp.	Taiwan	2.653	15,2	9.237	7.902	1.338	3.406	836,9	25%	42%	25%	2,3x	9,4x
NVIDIA Corporation	United States	26.196	434,0	1.071.990	1.065.238	17.259	81.186	40.220,0	39%	70%	49%	13,1x	26,5x
QUALCOMM Incorporated	United States	50.000	126,7	140.997	145.412	10.626	35.094	12.775,2	11%	56%	29%	4,1x	11,4x
Realtek Semiconductor Corp.	Taiwan	5.155	13,5	6.922	5.511	1.696	3.129	387,9	3%	43%	10%	1,8x	14,2x
Samsung Electronics Co., Ltd.	South Korea	124.116	51,9	344.203	292.799	65.344	205.283	48.890,7	45%	30%	17%	1,4x	6,0x
Semiconductor Manufacturing Inter	China	21.619	2,5	28.704	37.831	9.946	6.685	3.435,5	(16%)	23%	41%	5,7x	11,0x
SK hynix Inc.	South Korea	32.132	92,4	63.615	82.020	5.988	31.592	13.253,9	73%	(9%)	12%	2,6x	6,2x
Taiwan Semiconductor Manufacturi	Taiwan	65.152	17,1	442.652	427.215	45.542	73.655	50.199,6	7%	57%	68%	5,8x	8,5x
United Microelectronics Corporation	Taiwan	20.000	1,5	18.425	16.638	4.282	6.945	3.136,1	(7%)	38%	45%	2,4x	5,3x
Winbond Electronics Corporation	Taiwan	4.899	0,8	3.389	4.374	959	2.501	632,0	2%	32%	14%	1,7x	6,9x
Mean									13%	40%	12%	8,3x	17,9x
Median									5%	39%	16%	4,1x	11,4x

Abbreviations:

HQ: Headquarter; NTM: Next twelve months; EPS: Earnings per share; NTM multiples - EV/Estimates: EV as of 8 December 2023 divided by NTM estimates (mean of analysts)

EV: Enterprise Value = share price * outstanding shares + total debt + preferred stock + minority interest – cash & short-term investments

Sources: Capital IQ (as of 11 December 2023)

Public comps – Semiconductor IoT

Currency in EUR

Company Name	HQ	Employees	Share Price €	Market Cap € mn	EV € mn	Cash € mn	NTM		Exp. 5Y EPS Growth	LTM Margin		NTM Multiples	
							Sales	EBITDA		Gross	EBITDA	EV/Sales	EV/EBITDA
Advanced Micro Devices, Inc.	United States	25.000	125,1	202.113	199.392	5.466	23.359	4.157,1	31%	50%	14%	8,5x	48,0x
Ambarella, Inc.	United States	937	57,2	2.302	2.100	210	215	FALSE	20%	60%	(47%)	9,8x	NM
Arm Holdings plc	United Kingdom	5.963	60,4	61.924	60.070	2.084	2.988	1.184,4	39%	95%	12%	20,1x	50,7x
Analog Devices, Inc.	United States	26.000	177,0	87.825	93.873	905	9.302	4.258,0	10%	64%	51%	10,1x	22,0x
Broadcom Inc.	United States	20.000	958,0	395.407	418.715	13.396	46.695	27.946,3	15%	74%	57%	9,0x	15,0x
Impinj, Inc.	United States	389	78,2	2.116	2.285	107	285	13,6	NM	50%	(5%)	8,0x	168,4x
Infineon Technologies AG	Germany	58.590	37,2	48.115	49.639	3.590	16.883	5.832,6	7%	46%	35%	2,9x	8,5x
Intel Corporation	United States	131.900	41,5	174.786	199.554	23.648	55.897	16.259,0	2%	38%	16%	3,6x	12,3x
Lattice Semiconductor Corporation	United States	949	59,4	8.205	8.115	108	680	288,1	14%	70%	35%	11,9x	28,2x
MediaTek Inc.	Taiwan	17.449	27,7	44.143	42.251	3.503	927	168,0	9%	48%	20%	2,9x	12,6x
Microchip Technology Incorporated	United States	22.600	82,8	44.776	50.222	242	6.746	2.862,9	1%	68%	49%	7,4x	17,5x
Nordic Semiconductor ASA	Norway	1.530	9,6	1.870	1.696	216	494	51,9	(9%)	52%	11%	3,4x	32,7x
NVIDIA Corporation	United States	26.196	434,0	1.071.990	1.065.238	17.259	81.186	40.220,0	39%	70%	49%	13,1x	26,5x
NXP Semiconductors N.V.	Netherlands	34.500	205,3	52.916	59.830	3.819	12.566	5.050,1	12%	57%	37%	4,8x	11,8x
ON Semiconductor Corporation	United States	31.055	73,9	31.831	32.837	2.531	7.411	2.829,0	9%	48%	39%	4,4x	11,6x
Qorvo, Inc.	United States	8.500	98,7	9.608	10.857	668	3.645	894,1	31%	37%	12%	3,0x	12,1x
QUALCOMM Incorporated	United States	50.000	126,7	140.997	145.412	10.626	35.094	12.775,2	11%	56%	29%	4,1x	11,4x
Realtek Semiconductor Corp.	Taiwan	5.155	13,5	6.922	5.511	1.696	3.129	387,9	3%	43%	10%	1,8x	14,2x
Renesas Electronics Corporation	Japan	21.252	15,5	27.461	29.476	2.508	9.556	3.825,1	14%	57%	32%	3,1x	7,7x
Semtech Corporation	United States	2.248	19,2	1.234	2.404	138	762	115,7	15%	51%	1%	3,2x	20,8x
Silicon Laboratories Inc.	United States	1.964	114,3	3.633	3.287	394	488	11,2	NM	60%	13%	6,7x	293,2x
Skyworks Solutions, Inc.	United States	9.750	99,3	15.885	16.602	694	4.177	1.566,6	(2%)	44%	33%	4,0x	10,6x
STMicroelectronics N.V.	Switzerland	51.370	44,6	40.195	38.135	4.775	16.298	5.641,6	4%	47%	38%	2,3x	6,8x
Synaptics Incorporated	United States	1.891	100,1	3.924	4.111	779	984	172,9	9%	50%	14%	4,2x	23,8x
Texas Instruments Incorporated	United States	33.000	148,9	135.232	137.348	8.454	15.997	7.493,2	2%	64%	49%	8,6x	18,3x
u-blox Holding AG	Switzerland	1.339	98,8	703	681	97	610	119,6	NM	48%	21%	1,1x	5,7x
Mean									12%	56%	24%	6,2x	35,6x
Median									10%	52%	25%	4,3x	15,0x

Abbreviations:

HQ: Headquarter; NTM: Next twelve months; EPS: Earnings per share; NTM multiples - EV/Estimates: EV as of 8 December 2023 divided by NTM estimates (mean of analysts)

EV: Enterprise Value = share price * outstanding shares + total debt + preferred stock + minority interest – cash & short-term investments

Sources: Capital IQ (as of 11 December 2023)

Public comps – Semiconductor Equipment

Currency in EUR

Company Name	HQ	Employees	Share Price €	Market Cap € mn	EV € mn	Cash € mn	NTM		Exp. 5Y EPS Growth	LTM Margin		NTM Multiples	
							Sales	EBITDA		Gross	EBITDA	EV/Sales	EV/EBITDA
Advanced Process Systems Corpora	South Korea	556	15,4	232	155	162	368	42	NM	23%	14%	0,4x	3,7x
AIXTRON SE	Germany	1.057	38,5	4.054	3.848	210	725	222	20%	44%	26%	5,3x	17,3x
Applied Materials, Inc.	United States	34.300	144,4	120.799	119.582	6.485	24.343	7.326	10%	47%	31%	4,9x	16,3x
ASML Holding N.V.	Netherlands	39.850	665,6	260.114	260.135	4.981	26.766	9.248	20%	51%	35%	9,7x	28,1x
Camtek Ltd.	Israel	446	59,9	2.690	2.442	368	348	99	15%	48%	24%	7,0x	24,6x
Circuit Fabology Microelectronics Eq	China	471	10,6	1.389	1.263	126	147	38	NM	43%	20%	8,6x	33,6x
Disco Corporation	Japan	4.553	196,7	21.312	20.195	1.112	2.079	942	10%	66%	41%	9,7x	21,4x
EO Technics Co., Ltd.	South Korea	617	100,4	1.215	1.092	134	289	64	NM	28%	13%	3,8x	17,0x
FormFactor, Inc.	United States	2.105	36,1	2.808	2.625	231	640	113	20%	37%	5%	4,1x	23,2x
KLA Corporation	United States	15.105	520,5	70.958	73.486	3.164	9.267	3.967	11%	59%	41%	7,9x	18,5x
Lam Research Corporation	United States	17.200	684,7	90.236	90.076	4.839	14.166	4.326	9%	45%	31%	6,4x	20,8x
Lasertec Corporation	Japan	859	217,1	19.581	19.408	267	1.360	630	25%	50%	39%	14,3x	30,8x
MKS Instruments, Inc.	United States	10.450	79,8	5.340	9.296	813	3.285	731	(0%)	45%	22%	2,8x	12,7x
NEXTIN, Inc.	South Korea	117	48,4	489	477	13	99	63	NM	70%	46%	4,8x	7,6x
Nordson Corporation	United States	810	221,2	12.612	13.374	130	2.590	815	31%	54%	30%	5,2x	16,4x
Onto Innovation Inc.	United States	1.636	134,6	6.606	6.039	595	821	233	NM	53%	26%	7,4x	25,9x
Photronics, Inc.	United States	1.828	20,3	1.270	1.122	432	846	315	NM	38%	37%	1,3x	3,6x
PVA TePla AG	Germany	738	19,5	424	415	20	280	46	24%	29%	15%	1,5x	9,0x
SÜSS MicroTec SE	Germany	1.133	25,6	492	459	48	315	40	19%	35%	12%	1,5x	11,4x
Tokyo Electron Limited	Japan	17.204	148,4	68.694	66.388	2.294	12.004	3.470	6%	44%	27%	5,5x	19,1x
Tokyo Seimitsu Co., Ltd.	Japan	2.468	51,4	2.074	1.971	178	866	204	6%	42%	25%	2,3x	9,6x
TOWA Corporation	Japan	1.876	41,3	1.033	1.010	116	355	77	NM	33%	20%	2,8x	13,1x
Veeco Instruments Inc.	United States	1.221	27,0	1.523	1.546	271	652	110	NM	42%	13%	2,4x	14,0x
Mean									15%	45%	26%	5,2x	17,3x
Median									15%	44%	26%	4,9x	17,0x

Abbreviations:

HQ: Headquarter; NTM: Next twelve months; EPS: Earnings per share; NTM multiples - EV/Estimates: EV as of 8 December 2023 divided by NTM estimates (mean of analysts)

EV: Enterprise Value = share price * outstanding shares + total debt + preferred stock + minority interest – cash & short-term investments

Sources: Capital IQ (as of 11 December 2023)