

Q1 2024

Industry Insight: IT Hardware Sector Report

Private Equity is accelerating consolidation in IoT

Introduction to the ARTHOS IoT Sector Report

We are pleased to present the Q1 2024 ARTHOS IoT Sector Report. It provides comments and analysis on current market trends, valuation developments, and M&A transactions focusing on IoT.

Last year, limited demand resulted in significant layoffs at IT companies while their stocks rose significantly. Nevertheless, the market outlook for IoT continues to be strong, which is the main reason for the high number of IoT-related M&A transactions.

Private Equity is increasingly realizing M&A transactions in the IoT-sector, ranging from small VC investments to multi-billion-dollar transactions. We expect the trend of financial sponsors participating in more IoT transactions to continue. They drive consolidation and participate in shaping the future of the IoT industry. Prepare for that!

ARTHOS is an M&A advisory firm focusing on international technology transactions. Its managing partners have closed over 200 M&A transactions over the past 20 years.

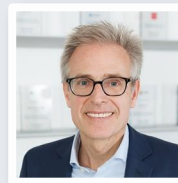
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Private Equity is accelerating consolidation in IoT



Personal note

The last 12 months showed ups and downs. Due to limited demand, many US tech companies executed significant layoffs in 2023, including Google, Amazon, and Microsoft. In Germany, we have experienced such in the beginning of 2024, e.g. by SAP and Bosch. On the other hand, stock market valuations of large IT companies have developed very well. We saw strong demand for computing applications, while demand for connectivity applications was poor.

Where will the market go? The recently published Eclipse Foundation global 2023 IoT survey gave a promising outlook: “64% of respondents are now deploying IoT solutions, up from 53% in 2022. Rising investments indicate a transition from proof-of-concept to ROI-focused deployments”. For IoT, the market outlook continues to be strong. This is the main reason for the high number of IoT-related transactions (see page 9 ff.).

In 2023, it became very visible that Private Equity is participating strongly in IoT-related M&A transactions. In addition to venture capital funds, many of which have been investing for years in IoT start-ups, we see an increasing number of M&A transactions executed by Private Equity firms driving consolidation in IoT. A famous example is Wireless Logic Limited, which was acquired by Montagu PE in 2021. They have executed five add-ons since then. Also, publicly listed companies were acquired by PE: Software AG was acquired in September 2023 for € 2.5 billion by Silver Lake. NYSE-listed Alteryx, a leading analytics cloud platform company, was taken over for \$ 4.4 billion in March 2024 by Clearlake Capital Group and Insight Partners. I expect the trend of financial sponsors executing more significant transactions in IoT to continue, driving consolidation and participating to shape the future of the IoT industry.

The IoT market is still characterized by many small and medium-sized companies. This includes small privately-owned as well as many venture-backed companies. The pace of consolidation will increase as clearly differentiated offerings are, in my view, rare. If you are interested in a discussion, don't hesitate to call even if you don't target a transaction soon!

* CAGR: Compound annual growth rate

Market trends



IoT adoption surged in 2023

(Eclipse Foundation)



Industrial PC market size is expected to grow to \$8 billion in 2028 at a CAGR* of 7.8%

(The Business Research Company)



60+ Best Venture Capital (VC) Investors for IoT

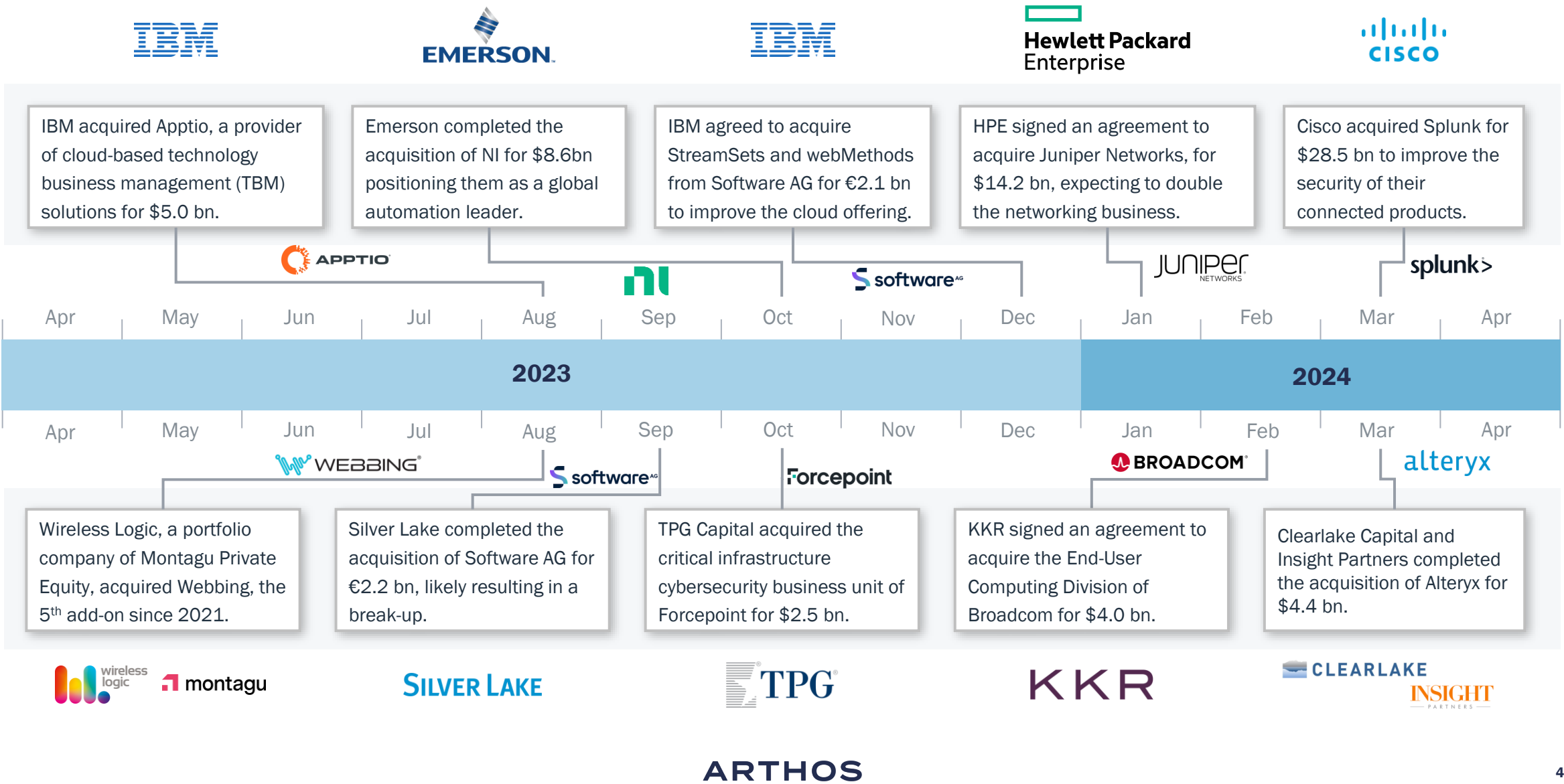
(EarlyNode)



IoT is not the “cool” term it used to be, but at the same time, IoT is quietly scaling

(IOT Analytics)

2023/24 IoT M&A in review: Private Equity funds are accelerating consolidation



Big players currently achieve high EV/NTM EBITDA valuation multiples

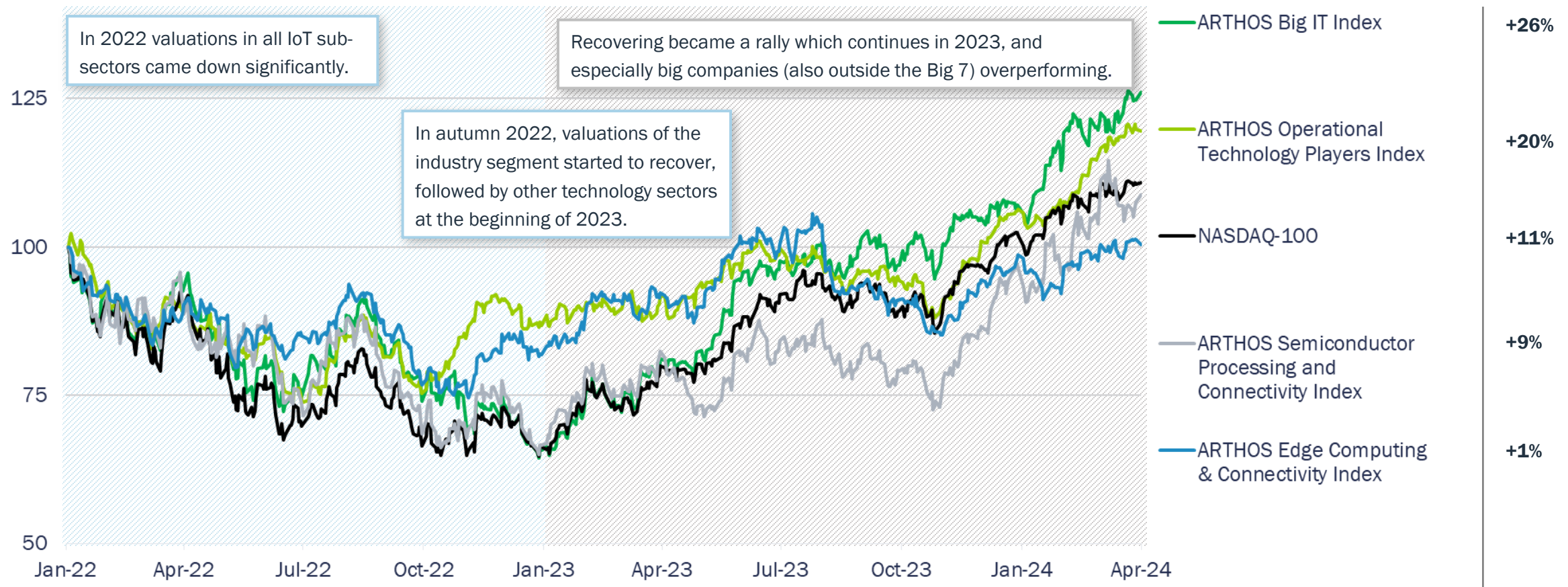
ARTHOS IoT sub-sectors	■ EV/NTM Sales* ■ EV/NTM EBITDA*	5y. EPS p.a. growth	Important players
Edge Computing and Connectivity Edge Computing and Connectivity companies offer embedded or box computing solutions and/or networking devices like industrial routers and gateways for intelligent connectivity. Multiples are lower than in other sectors as company sizes and the stability of their businesses are lower. Also, their projected growth is lower.	■ 1,2x ■ 10,1x	7% (1 year rev growth)	    
Operational Technology Players Operational Technology (OT) companies are offering OT systems that are used to monitor, control and manage production processes, equipment and systems. Often those are industrial conglomerates also offering other systems and services. Valuations of OT players are high compared to those in other segments right now.	■ 3.0x ■ 16.0x	9%	   
Semiconductor Processing and Connectivity Semiconductor Processing and Connectivity companies offer MCUs, compute processors, and/or connectivity products. Multiples within this subsector differ greatly as growth depends on the product mix and market focus. High valuations are currently seen especially for companies focusing on processing products.	■ 3,9x ■ 13,4x	13%	    
Big IT The Big IT index includes all large IT companies with a market cap above USD 200 bn. It was included to illustrate valuation differences with other sectors. Valuations for almost all of them are very high despite different business models. The high EBITDA valuation multiples are justified by high long-term growth expectations.	■ 6,5x ■ 16,6x	15%	    

Sources: Capital IQ (as of 02 April 2024), the composition of ARTHOS IoT indices are outlined in the appendix, p. 19ff.

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

After a downturn in 2022, all IoT indexes recovered in 2023 with some further increases in 2024

Stock market performance by IoT sub-sector indices since January 2022



Sources: Capital IQ (as of 02 April 2024)
The composition of ARTHOS IoT indices are outlined in the appendix, p. 19ff.

EV/NTM EBITDA multiples of public companies provide a good indication for the market sentiment

Comments

- ➔ Most technology indices usually trade between 12x and 16x EV/NTM EBITDA. They vary significantly over time and are mainly driven by the expectation of individual company performance and industry growth expectation.
- ➔ When valuations in specific industry segments are high, the appetite for acquisitions and the willingness to pay higher prices increase. **As a result, purchase prices for private companies are also influenced by stock market valuations in the same industry.**
- ➔ From 2019 until the end of 2022, valuations of all IoT sectors first moved up and then down. Interestingly, with some deviations, all stayed in the same valuation multiple corridor.
- ➔ Since the beginning of 2023, EV/NTM EBITDA multiples for Edge Computing & Connectivity have not followed the strong upward trend. Checking company valuation multiples in more detail, it can be recognized that **smaller companies could not improve as much as big companies from the strong upward trend.**

EV/NTM EBITDA* multiple development since January 2019



Sources: Capital IQ (as of 02 April 2024), the composition of ARTHOS IoT indices are outlined in the appendix, p. 19ff.
EV/NTM EBITDA: Current enterprise value / next twelve months EBITDA estimates [median]

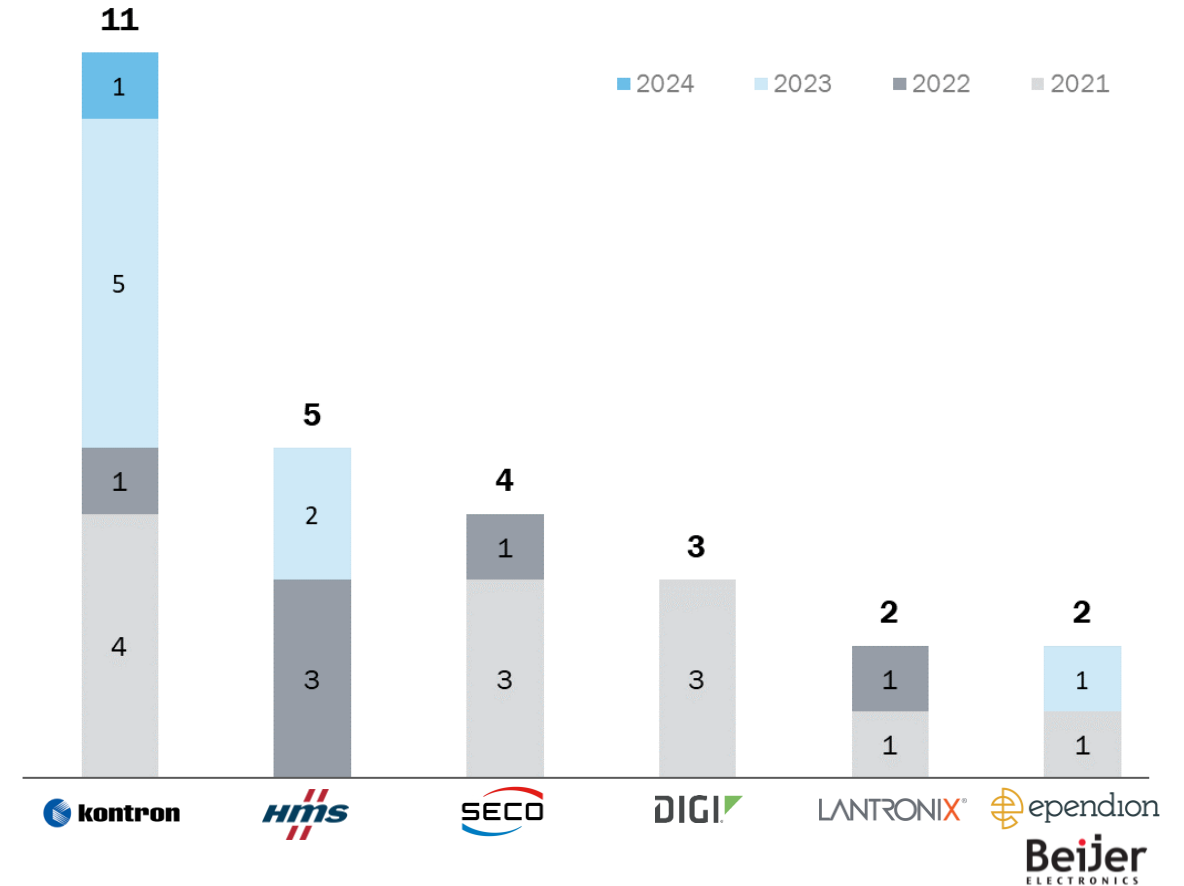
Edge Computing & Connectivity sub-sector analysis: Kontron is by far the most active acquirer

Edge Computing and Connectivity peers

in € mn

Company Name	EV	LTM Sales	Exp. Sales Growth 1Y	EBITDA Margin	NTM	
					EV/Sales	EV/EBITDA
AAEON Technology Inc.	697	238	NM	14%	NM	NM
Adlink Technology Inc.	519	337	6%	5%	1.5x	21.5x
Advantech Co., Ltd.	9,316	1,907	7%	20%	4.6x	22.4x
Axiomtek Co., Ltd.	253	198	5%	15%	1.2x	8.1x
Beijing InHand Networks Technology	254	63	41%	22%	2.8x	11.5x
DATA MODUL AG	143	283	7%	9%	0.5x	6.0x
Digi International Inc.	1,226	400	(0%)	19%	2.9x	12.6x
D-Link Corporation	296	471	NM	2%	NM	NM
Ependion AB	322	222	0%	19%	1.5x	7.6x
Eurotech S.p.A.	81	94	14%	6%	0.8x	7.8x
HMS Networks AB (publ)	1,887	272	(2%)	27%	7.4x	29.1x
IBASE Technology Inc.	527	177	13%	10%	2.7x	20.1x
IEI Integration Corp.	268	224	10%	17%	1.1x	5.0x
Inseego Corp.	183	177	(7%)	(12%)	1.1x	12.4x
Kontron AG	1,184	1,251	13%	7%	0.8x	7.3x
Lanner Electronics Inc.	301	247	9%	15%	1.1x	7.0x
Lantronix, Inc.	131	125	22%	2%	0.8x	6.7x
NEXCOM International Co., Ltd.	219	170	NM	6%	NM	NM
One Stop Systems, Inc.	54	55	1%	(2%)	1.0x	1823.2x
Seco S.p.A.	575	210	10%	14%	2.4x	10.1x
Mean			9%	11%	2.0x	118.7x
Median			7%	12%	1.2x	10.1x

No. of acquisitions per year of most active buyers



Sources: Capital IQ (as of 02 April 2024)

Large IoT Deals in 2023/24

Date	Buyer	Target	Comment	Country
Jan 2024	 Hewlett Packard Enterprise	→  JUNIPER NETWORKS	- On Jan 09, Hewlett Packard Enterprise (NYSE: HPE) has entered a definitive agreement to acquire Juniper Networks, Inc. (NYSE: JNPR) valued at approximately \$14.2 billion EV (EV/EBITDA 17.5x). - The acquisition is expected to double HPE's networking business and supercharges HPE's edge-to-cloud strategy with an ability to lead in an AI-native environment.	
Dec 2023	 IBM	→ StreamSets and webMethods of  software AG	- IBM (NYSE:IBM) agreed to acquire StreamSets and webMethods of Software AG (XTRA:SOW) for approximately €2.1 billion after Silver Lake acquired them in Sep 2023. - While StreamSets adds data ingestion capabilities to IBM's AI and data platform, webMethods delivers integration and API management tools for hybrid multi-cloud environments.	
Sep 2023	 CISCO	→  splunk	- On Mar 18, 2024 Cisco Systems (NasdaqGS:CSCO) completed the purchase of Splunk from Hellman & Friedman Capital for an EV of \$28.5 billion. - Cisco intends to improve the security of their connected products with Splunk's AI-enabled security and observability capabilities with the power of data and AI.	
Jun 2023	 IBM	→  APPTIO	- On Aug 10, 2023 IBM (NYSE:IBM) completed the acquisition of Apptio, a provider of cloud-based technology business management (TBM) solutions for enterprises, for an implied EV of \$5.0 bn. - The acquisition enhances IBM's IT automation software with Apptio's watsonx AI platform to help enterprises to manage and optimize their IT spending through a 360-degree platform.	
May 2022	 EMERSON	→  NI	- Emerson Electric (NYSE:EMR) finalized the acquisition of National Instruments (NasdaqGS:NATI) for an EV of \$8.6 billion on Oct 11 2023 in an all-cash transaction. - The acquisition advances Emerson's position as a global automation leader and extends its product portfolio with NI's leading software-connected automated test and measurement systems.	

Private Equity IoT Deals in 2023/24

Date	Buyer	Target	Comment	Country
Feb 2024	KKR →	End-User computing division of BROADCOM	- KKR (NYSE:KKR) entered into an agreement to acquire the End-User Computing Division of Broadcom (NasdaqGS:AVGO) in a transaction valued at \$4 billion on Feb 26, 2024. - The acquired division will become a standalone entity, providing workspace solutions that allow organizations to securely deliver and manage applications, desktops and data across devices.	
Dec 2023	CLEARLAKE INSIGHT PARTNERS →	alteryx	- Clearlake Capital Group and Insight Partners completed the acquisition of Alteryx (NYSE:AYX), a leading analytics cloud platform company, for \$4.4 billion on March 19, 2024. - The transaction provides Alteryx with increased working capital and industry expertise, as well as private company flexibility to pursue growth opportunities, particularly with its AI products.	
Oct 2023	TPG →	Forcepoint global governments & critical infrastructure cybersecurity business	- On Oct 02, TPG Capital (NASDAQ: TPG) acquired Forcepoint's global governments and critical infrastructure cybersecurity business from Francisco Partners for \$2.5 billion. - The transaction enables Forcepoint G2CI to operate with greater flexibility and focus to grow its platform as a next-generation cybersecurity provider for national security and intelligence agencies.	
Sep 2023	SILVER LAKE →	software ^{AG}	- On Sep 28, Silver Lake completed the acquisition of Software AG (XTRA:SOW) from Software AG Stiftung, Rocket Software International and other shareholders for €2.2 billion (EV/EBITDA 21.2x). - Software AG had been underperforming compared to its peers for many years when Silver Lake invested in and received a board seat in Dec 2021. Since then, SAG has been for sale.	
Aug 2023	wireless logic a portfolio company of montagu →	WEBBING [®]	- Wireless Logic, a portfolio company of Montagu Private Equity, acquired the global mobile virtual network operator Webbing for an undisclosed amount on Aug 07. - This transaction follows Wireless Logic's recent acquisitions, continuing its strategy of global expansion, service offering enhancement and new routes to market.	
Mar 2023	wireless logic a portfolio company of montagu →	bluewireless	- On Mar 06, Wireless Logic, a portfolio company of Montagu Private Equity, completed the acquisition of Blue Wireless, a global service provider for managed wireless solutions. - With the acquisition, Wireless Logic strengthens their presence in Asia Pacific and the United States and extends their product and service offering around fixed wireless access.	

Connectivity & Computing IoT Deals 2023/24 (1 of 3)

Date	Buyer	Target	Comment	Country
Apr 2024	 → 	- On Apr 02, HMS Networks (OM:HMS) has completed the acquisition of Red Lion Controls from Spectris (LSE:SXS) for cash considerations of approximately \$345 million (EV). - With the acquisition, HMS improves its presence in the North American market via cross-selling and providing Red Lions’ products such as edge intelligence and cloud computing in Europe.		
Feb 2024	 → 	- On Feb 13, Siemens (XTRA:SIE) has acquired the AI-enabled machine vision software company Inspekto for an undisclosed transaction value. - Siemens leverages Inspekto’s technology globally and utilizes the easy-to-use automated visual quality inspection software based on image processing, to drive digital transformation forward.		
Jan 2024	 → 	- Kontron (XTRA:SANT) agreed to acquire 59.43% in KATEK (XTRA:KTEK) from Primepulse for an EV of approximately €300 million on Jan 18. - Kontron aims to expand its portfolio with smart solutions for renewable energies and other industries by upgrading Katek’s products with its software expertise and IoT connectivity.		
Dec 2023	 → 	- Skyworks Solutions (NasdaqGS:SWKS) made an offer to acquire Rakon (NZSE:RAK) for approximately NZD 420 million on Dec 07. - Rakon is one of the world’s largest manufacturers of frequency control products and timing solutions, having overlapping technologies with Skyworks, such as 5G.		
Oct 2023	 → 	- Rockwell Automation (NYSE:ROK) completed the acquisition of Verve Industrial Protection for \$185 million (EV) on Nov 01. - With the acquisition, Rockwell aims to expand its offerings with an industry-leading asset inventory and vulnerability management system, as well as better cybersecurity programs.		
Oct 2023	 → 	- On Dec 15, Amphenol Corporation (NYSE:APH) closed the acquisition of PCTEL (NasdaqGS:PCTI) with a total transaction size of \$143 million (EV \$110 million). - Amphenol seeks to utilize PCTEL’s innovation leadership in the wireless technology solutions area and leverage its international presence and customer base to scale PCTEL’s business.		

Connectivity & Computing IoT Deals 2023/24 (2 of 3)

Date	Buyer	Target	Comment	Country
Oct 2023	 kontron	→ BSQUARE	➤ Kontron America has fully acquired BSQUARE Corporation (NasdaqCM:BSQR) from Palologic Value and others in an all-cash transaction for \$33 million, on Dec 07. ➤ The acquisition is set to strengthen Kontron's software development, marketing and integration in North America, as Bsquare has specific skills in developing and deploying software technologies.	
Sep 2023	 kontron	→ ALTIMATE	➤ On Sep 18, Kontron acquired the urban and interurban mobility solutions provider Altimate for €11.6 million (LTM EV/EBITDA 6.5x). ➤ The acquisition is an addition to Kontron's fast-growing high-margin segment "Software + Solutions" and further strengthens its transportation business with Altimate's software solutions.	
Sep 2023	 ADVANTECH	→ BitFlow	➤ Advantech (TWSE:2395) agreed to acquire the North American image capturing solutions provider BitFlow on Sep 08 in an all-cash transaction for an undisclosed amount. ➤ With BitFlow's high-speed image acquisition technology, Advantech expects to expand its offerings of advanced industrial computer vision products and markets and strengthen its AI business.	
Jul 2023	 kontron	→  COMLAB radio frequency technology	➤ Kontron Transportation entered into an agreement to acquire the specialist for data communication repeaters for railways, Comlab, on Jul 06. ➤ Kontron aims to expend its railway business by leveraging Comlab's digital communication systems, engineering capabilities and market coverage in Germany, Switzerland and China.	
Jul 2023	 kontron	→ Cellular automotive module unit of  Telit Cinterion	➤ On Aug 01, Kontron Europe acquired the Cellular Automotive Module Unit of Telit Cinterion for an EV of €24.5 million. ➤ The acquisition helps Kontron to enhance its IoT offerings with its proprietary software technology by integrating Telit Cinterion's secure IoT solutions into its own ecosystem.	
Apr 2023	 Beijer ELECTRONICS	→  SMART HMI	➤ Beijer Electronics (OM:BELE) closed the acquisition of the web-based visualization software provider Smart HMI for €5.2 million on Apr 26. ➤ With this acquisition, Beijer adds platform-independent web-based technologies to its product offering to better position itself in the industrial automation and IoT market.	

Connectivity & Computing IoT Deals 2023/24 (2 of 3)

Date	Buyer	Target	Comment	Country
Mar 2023		IoT business unit of 	- On Jun 01, KORE (NYSE:KORE) acquired the IoT business unit of Twilio for an EV of \$14.7 million in the form of 11.5% of KORE's common stock. - Twilio's IoT business unit is part of KORE's growth strategy to provide customers with a unified, seamless approach to launching IoT solutions and helps to accelerate time to market.	
Mar 2023			- On March 23, AAEON Technology (TWSE:6579) agreed to acquire a 35.09% stake in Jetway Information (TPEX:6161) from 11 shareholders for approximately TWD 6.2 billion (EV \$552 mn). - With this acquisition, AAEON can extend their hardware product offerings with Jetway's industrial embedded boards, industrial standard systems, rack-mounted servers and flat-panel computers.	
Mar 2023			- On May 02, Hewlett Packard Enterprise (NYSE:HPE) closed the acquisition of the IT operations management company OpsRamp for an EV of \$300 million. - The acquisition will enable HPE to improve its integrated edge-to-cloud platform by incorporating OpsRamp's hybrid digital operations management solution which delivers AI for IT operations.	
Jan 2023			- On Jan 04, HMS Industrial Networks completed the acquisition of an additional 20% stake in Owasys Advanced Wireless Devices, raising HMS's ownership to 80%. - The acquisition will strengthen the collaboration between HMS and Owasys, which creates open platforms and solutions for system integrators to further develop M2M and IoT applications.	

ARTHOS – International Tech M&A advisory

ARTHOS – International 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 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.



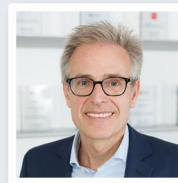
Technology

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



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Senior 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 been acquired by



Accelerating growth of inno-spec's
industrial hyperspectral imaging solutions



Stockholm, Sweden

has acquired



Expansion in industry 4.0 conveyor systems
for production process optimization



Munich, Germany

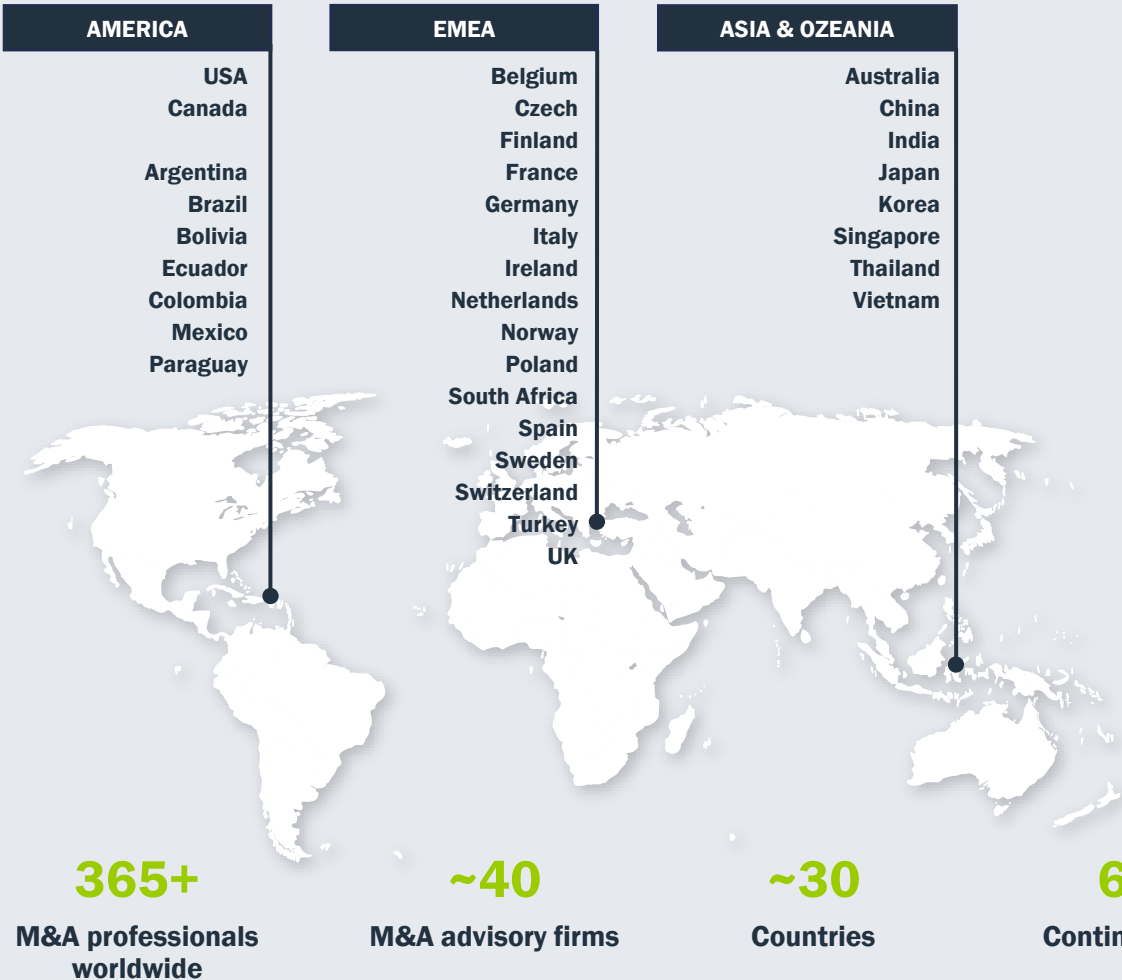
has acquired



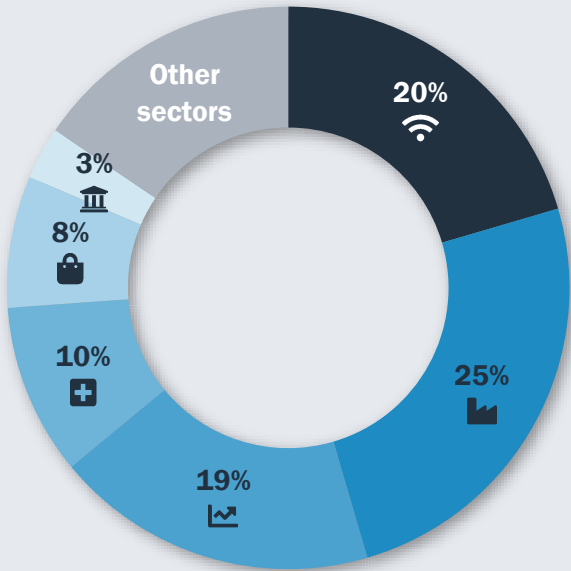
Energy-efficient integrated
audio amplifier solutions

ARTHOS worldwide – partner within the global AICA alliance

Global reach – international cooperation



Transactions by sector in 2023



- Technology
- Industrials
- Business Services
- Healthcare
- Consumer Products
- Financial Services

Contact us for technology M&A advice

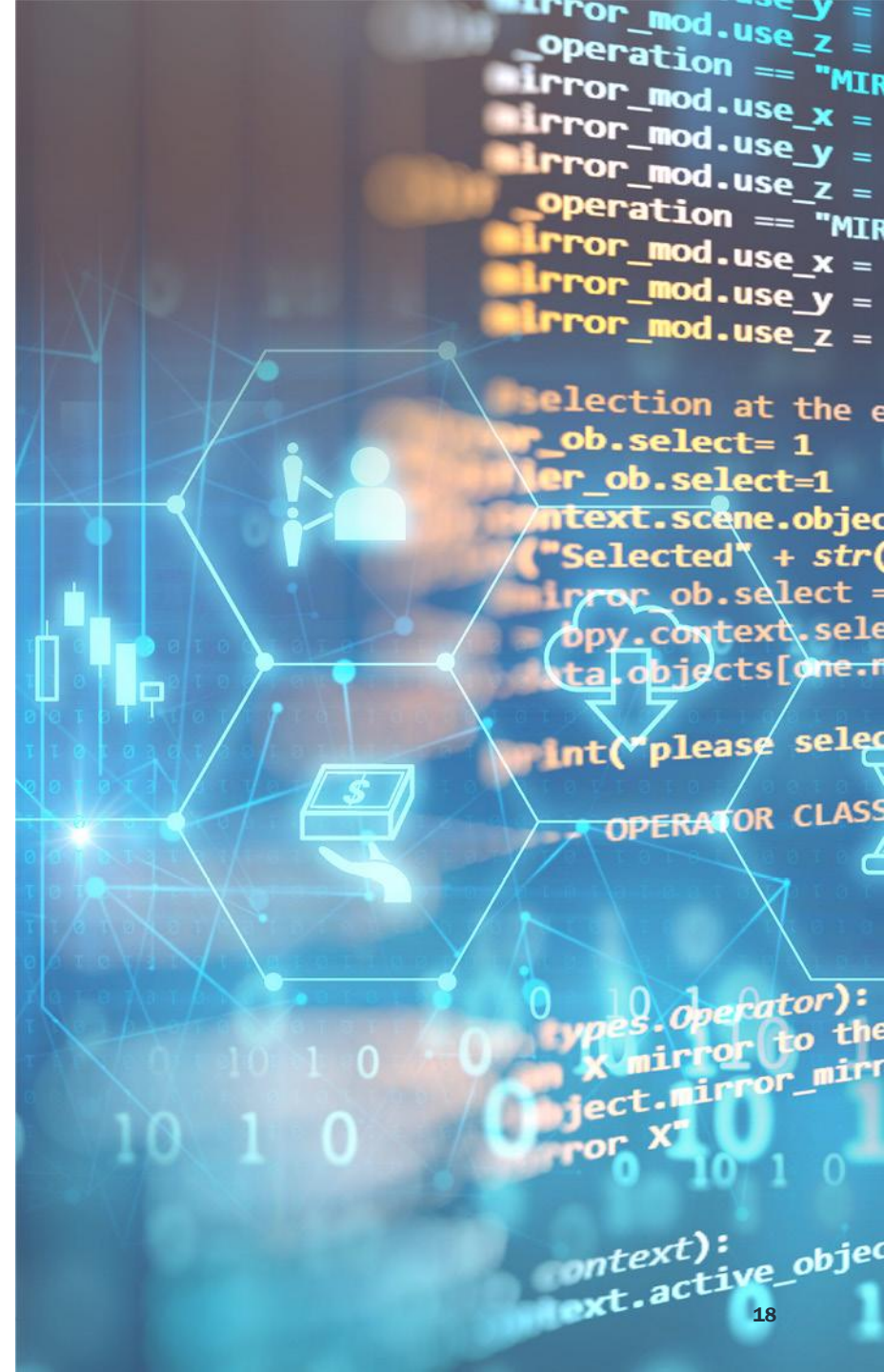


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Appendix: Public comps by sub-sector

Public stock comparison – ARTHOS Edge Computing & Connectivity Index

Currency in EUR

Company Name	HQ	Employees	Share Price €	Market Cap € mn	EV € mn	Cash € mn	NTM		Exp. Sales Growth 1Y	Margin		NTM Multiples	
							Sales	EBITDA		Gross	EBITDA	EV/Sales	EV/EBITDA
AAEON Technology Inc.	Taiwan	370	4.8	766	697	143	NM	NM	NM	35%	14%	NM	NM
Adlink Technology Inc.	Taiwan	342	2.0	431	519	55	350	24.2	6%	37%	5%	1.5x	21.5x
Advantech Co., Ltd.	Taiwan	2,526	11.5	9,861	9,316	626	2,014	416.5	7%	41%	20%	4.6x	22.4x
Axiomtek Co., Ltd.	United States	370	2.7	269	253	45	205	31.2	5%	36%	15%	1.2x	8.1x
Beijing InHand Networks Technology	China	394	4.6	338	254	85	90	22.0	41%	48%	22%	2.8x	11.5x
DATA MODUL AG	Germany	565	36.8	131	143	14	272	23.7	7%	21%	9%	0.5x	6.0x
Digi International Inc.	United States	822	29.2	1,058	1,226	29	422	97.2	(0%)	58%	19%	2.9x	12.6x
D-Link Corporation	Taiwan	2,087	0.5	322	296	134	NM	NM	NM	24%	2%	NM	NM
Ependion AB	Sweden	869	9.6	271	322	13	212	42.2	0%	49%	19%	1.5x	7.6x
Eurotech S.p.A.	Italy	393	1.7	61	81	11	107	10.4	14%	47%	6%	0.8x	7.8x
HMS Networks AB (publ)	Sweden	801	40.7	1,875	1,887	11	254	64.4	(2%)	65%	27%	7.4x	29.1x
IBASE Technology Inc.	Taiwan	0	2.4	480	527	88	197	26.2	13%	25%	10%	2.7x	20.1x
IEI Integration Corp.	Taiwan	445	2.4	421	268	162	242	53.7	10%	37%	17%	1.1x	5.0x
Inseego Corp.	United States	338	2.6	31	183	7	169	14.7	(7%)	27%	(12%)	1.1x	12.4x
Kontron AG	Austria	4,838	20.6	1,261	1,184	344	1,410	161.5	13%	39%	7%	0.8x	7.3x
Lanner Electronics Inc.	Taiwan	0	2.9	424	301	127	264	42.8	9%	34%	15%	1.1x	7.0x
Lantronix, Inc.	United States	364	3.3	125	131	20	163	19.5	22%	42%	2%	0.8x	6.7x
NEXCOM International Co., Ltd.	Taiwan	1,004	1.4	203	219	50	NM	NM	NM	28%	6%	NM	NM
One Stop Systems, Inc.	United States	101	3.0	61	54	11	54	0.0	1%	29%	(2%)	1.0x	1823.2x
Seco S.p.A.	Italy	811	3.7	480	575	75	237	57.0	10%	26%	14%	2.4x	10.1x
Mean									9%	37%	11%	2.0x	118.7x
Median									7%	36%	12%	1.2x	10.1x

Abbreviations:

HQ: Headquarter; NTM: Next twelve months; EPS: Earnings per share; NTM multiples - EV/Estimates: EV as of 02 April 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 02 April 2024)

Public stock comparison – ARTHOS Operation Technology Players Index

Currency in EUR

Company Name	HQ	Employees	Share Price €	Market Cap € mn	EV € mn	Cash € mn	NTM		Exp. EPS Growth 5 Years	Margin		NTM Multiples	
							Sales	EBITDA		Gross	EBITDA	EV/Sales	EV/EBITDA
ABB Ltd	Switzerland	107,900	43.2	79,013	82,396	5,265	31,346	5,638.5	5%	35%	17%	2.6x	14.6x
Atlas Copco AB	Sweden	52,778	15.6	73,239	75,106	1,009	14,975	3,941.7	9%	44%	25%	5.0x	18.9x
Emerson Electric Co.	United States	67,000	105.7	60,432	74,663	1,878	16,542	4,310.3	13%	50%	27%	4.5x	17.3x
Fanuc Corporation	Japan	9,432	25.6	24,203	21,350	3,063	4,653	1,260.6	1%	35%	25%	4.6x	16.9x
General Electric Company	United States	125,000	163.3	178,487	181,807	18,612	68,936	9,508.8	36%	22%	12%	2.6x	19.1x
Hitachi, Ltd.	Japan	262,193	83.0	76,903	81,457	7,426	53,784	7,181.0	4%	26%	16%	1.5x	11.3x
Honeywell International Inc.	United States	95,000	188.1	122,657	135,715	7,324	35,906	9,435.9	8%	37%	24%	3.8x	14.4x
Mitsubishi Electric Corporation	Japan	149,655	15.2	31,675	31,442	4,693	31,792	3,301.4	12%	29%	10%	1.0x	9.5x
OMRON Corporation	Japan	28,034	33.4	6,573	7,709	830	927	168.0	(2%)	43%	10%	1.5x	15.6x
Rockwell Automation, Inc.	United States	29,000	263.8	30,231	33,474	398	8,720	1,934.3	9%	41%	20%	3.8x	17.3x
Schneider Electric S.E.	France	166,320	207.7	117,051	128,196	4,696	37,727	7,833.9	11%	42%	19%	3.4x	16.4x
Siemens Aktiengesellschaft	Germany	321,000	176.7	138,782	182,159	10,769	81,991	15,043.7	9%	38%	15%	2.2x	12.1x
Yokogawa Electric Corporation	Japan	17,084	21.3	5,552	5,069	822	3,160	559.3	9%	47%	19%	1.6x	9.1x
Mean									10%	37%	18%	3.1x	15.3x
Median									9%	38%	18%	3.0x	16.0x

Abbreviations:

HQ: Headquarter; NTM: Next twelve months; EPS: Earnings per share; NTM multiples - EV/Estimates: EV as of 02 April 2024 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 02 April 2024)

Public stock comparison – ARTHOS Semiconductor Processing and Connectivity Index

Currency in EUR

Company Name	HQ	Employees	Share Price €	Market Cap € mn	EV € mn	Cash € mn	NTM		Exp. EPS Growth 5 Years	Margin		NTM Multiples	
							Sales	EBITDA		Gross	EBITDA	EV/Sales	EV/EBITDA
Advanced Micro Devices, Inc.	United States	26,000	170.7	275,858	273,378	5,223	24,037	4,802.2	45%	50%	17%	11.4x	56.9x
Ambarella, Inc.	United States	915	46.6	1,910	1,710	203	233	(25.2)	20%	60%	(62%)	7.3x	-67.8x
Arm Holdings plc	United Kingdom	5,963	118.2	121,470	119,441	2,172	3,406	1,584.6	42%	95%	8%	35.1x	75.4x
Impinj, Inc.	United States	475	119.7	3,255	3,424	102	306	29.3	NM	49%	(9%)	11.2x	117.0x
Infineon Technologies AG	Germany	59,340	31.7	40,942	44,002	2,712	16,358	5,226.3	6%	45%	34%	2.7x	8.4x
Intel Corporation	United States	124,800	41.4	176,439	202,396	22,648	53,575	15,112.4	25%	40%	18%	3.8x	13.4x
Lattice Semiconductor Corporation	United States	1,156	72.6	9,983	9,878	116	563	193.7	6%	70%	34%	17.6x	51.0x
Microchip Technology Incorporated	United States	22,600	83.5	45,148	50,219	254	5,337	1,925.2	(7%)	67%	48%	9.4x	26.1x
Nordic Semiconductor ASA	Norway	1,426	7.3	1,410	1,292	263	409	(16.3)	104%	52%	5%	3.1x	-79.3x
NXP Semiconductors N.V.	Netherlands	34,200	229.3	58,803	65,772	3,864	12,169	4,689.6	7%	57%	36%	5.4x	14.0x
Qorvo, Inc.	United States	8,500	106.3	10,261	11,153	970	3,785	982.9	24%	37%	14%	2.9x	11.3x
QUALCOMM Incorporated	United States	50,000	159.9	178,553	181,743	10,949	35,956	13,657.1	10%	56%	30%	5.1x	13.3x
Realtek Semiconductor Corp.	Taiwan	5,155	16.5	8,461	7,428	1,287	3,181	438.7	36%	43%	9%	2.3x	16.9x
Renesas Electronics Corporation	Japan	21,252	16.7	29,671	31,064	2,820	9,313	3,701.7	14%	57%	38%	3.3x	8.4x
Semtech Corporation	United States	1,917	27.3	1,765	2,935	132	815	148.2	15%	49%	5%	3.6x	19.8x
Silicon Laboratories Inc.	United States	1,846	132.2	4,219	3,878	397	619	(23.9)	48%	59%	5%	6.3x	-162.0x
Skyworks Solutions, Inc.	United States	9,750	99.7	15,989	16,142	946	4,205	1,406.9	10%	43%	31%	3.8x	11.5x
STMicroelectronics N.V.	Switzerland	51,323	40.5	35,962	33,382	5,503	15,435	4,727.0	2%	47%	37%	2.2x	7.1x
Synaptics Incorporated	United States	1,891	91.0	3,577	3,740	768	964	168.1	13%	48%	9%	3.9x	22.3x
Texas Instruments Incorporated	United States	34,000	161.2	146,720	149,713	7,758	14,561	6,537.8	4%	63%	48%	10.3x	22.9x
u-blox Holding AG	Switzerland	1,339	89.2	650	594	136	440	51.4	(7%)	44%	12%	1.3x	11.6x
Mean									21%	54%	17%	7.2x	9.4x
Median									13%	50%	17%	3.9x	13.4x

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Sources: Capital IQ (as of 02 April 2024)

Public stock comparison – ARTHOS Big IT Index

Currency in EUR

Company Name	HQ	Employees	Share Price €	Market Cap € mn	EV € mn	Cash € mn	NTM		Exp. EPS Growth 5 Years	Margin		NTM Multiples	
							Sales	EBITDA		Gross	EBITDA	EV/Sales	EV/EBITDA
Accenture plc	Ireland	742,000	315.8	198,532	197,477	4,742	62,662	11,900.2	9%	33%	17%	3.2x	16.6x
Adobe Inc.	United States	29,945	467.4	209,416	206,870	6,300	20,518	10,197.6	15%	88%	38%	10.1x	20.3x
Alphabet Inc.	United States	182,502	144.8	1,805,148	1,729,692	100,346	319,040	130,637.4	16%	57%	33%	5.4x	13.2x
Amazon.com, Inc.	United States	1,525,000	168.5	1,750,098	1,819,731	78,510	597,287	124,064.9	23%	47%	15%	3.0x	14.7x
Apple Inc.	United States	161,000	158.3	2,444,418	2,384,336	66,134	366,536	124,121.3	9%	45%	34%	6.5x	19.2x
Broadcom Inc.	United States	20,000	1,257.1	582,563	642,182	10,994	48,979	29,812.1	14%	74%	52%	13.1x	21.5x
Cisco Systems, Inc.	United States	84,900	46.6	188,640	175,999	24,146	50,568	18,326.7	4%	64%	31%	3.5x	9.4x
IBM Corporation	United States	282,200	176.7	162,018	205,378	12,160	59,396	14,758.6	7%	55%	23%	3.5x	13.9x
Meta Platforms, Inc.	United States	67,317	457.4	1,166,217	1,140,634	59,170	147,555	85,516.5	21%	81%	46%	7.7x	13.3x
Microsoft Corporation	United States	221,000	395.3	2,937,063	2,965,343	73,264	242,317	127,066.5	15%	70%	52%	12.2x	23.3x
NVIDIA Corporation	United States	29,600	841.3	2,070,557	2,056,659	23,916	103,612	65,544.3	35%	73%	57%	19.8x	31.4x
Oracle Corporation	United States	164,000	116.8	321,087	394,296	9,162	52,546	27,048.9	13%	72%	40%	7.5x	14.6x
Salesforce, Inc.	United States	72,682	281.4	272,962	272,374	13,083	35,413	13,345.1	22%	75%	26%	7.7x	20.4x
Samsung Electronics Co., Ltd.	South Korea	124,116	58.4	388,279	340,666	64,469	208,426	52,952.9	42%	30%	17%	1.6x	6.4x
SAP SE	Germany	107,602	181.3	209,702	207,461	11,281	33,845	9,222.5	15%	72%	23%	6.1x	22.5x
Mean									17%	62%	34%	7.4x	17.4x
Median									15%	70%	33%	6.5x	16.6x

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