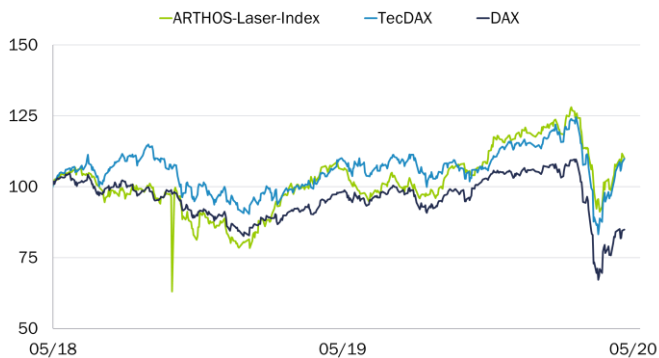


**Laser Stock Market Performance**

Company Name	EV € mn	Sales € mn	Share price	Local curr.	Δ 52W High	2020E EV/EBITDA
<b>ARTHOS Laser Peers</b>						
Carl Zeiss Meditec	8.456,3	1.505,4	96,6	EUR	(20,9%)	29,1x
Coherent, Inc.	3.030,2	1.224,5	129,0	USD	(27,6%)	14,7x
Conzeta AG	1.367,8	1.447,5	839,0	CHF	(28,7%)	11,3x
EL.En. S.p.A.	302,6	400,8	19,0	EUR	(45,3%)	9,8x
Fanuc Corporation	24.357,0	4.298,3	17.280,0	JPY	(21,6%)	21,3x
FLIR Systems, Inc.	6.178,6	1.722,8	45,4	USD	(23,6%)	18,7x
Hamamatsu Phot.	5.809,8	1.186,5	4.735,0	JPY	(3,1%)	16,3x
Han's Laser Techn.	4.555,4	1.149,6	32,6	CNY	(29,1%)	21,7x
II-VI Incorporated	4.748,1	1.525,5	33,6	USD	(21,7%)	8,8x
IPG Photonics Corp.	6.015,9	1.136,4	144,2	USD	(13,4%)	22,0x
Jenoptik AG	1.200,3	855,2	21,3	EUR	(34,2%)	11,1x
Keyence Corporation	76.090,4	4.630,8	39.830,0	JPY	(1,7%)	29,9x
LPKF Laser & Elec.	492,6	127,8	20,3	EUR	(21,2%)	21,0x
Lumibird SA	178,4	112,7	10,7	EUR	(39,5%)	8,5x
Lumentum	5.328,6	1.546,8	80,5	USD	(13,7%)	10,5x
MKS Instruments	5.280,9	1.794,4	95,4	USD	(22,0%)	n.a.
NeoPhotonics Corp.	329,0	341,1	8,2	USD	(18,3%)	6,1x
NKT A/S	791,7	1.356,4	150,6	DKK	(18,5%)	16,0x
Novanta Inc.	2.892,7	557,9	83,4	USD	(16,5%)	31,5x
Olympus Corporation	19.628,2	6.624,3	1.655,0	JPY	(23,0%)	13,3x
Onto Innovation Inc.	1.132,6	347,2	30,7	USD	(27,7%)	12,1x
Prima Industrie SpA	252,2	427,6	13,1	EUR	(30,5%)	7,8x
TOWA Corporation	216,5	211,0	915,0	JPY	(30,2%)	14,8x
Wuhan Raycus	2.365,0	224,5	96,4	CNY	(22,9%)	40,3x
<b>Mean</b>					<b>(23,1%)</b>	<b>17,5x</b>
<b>Median</b>					<b>(22,4%)</b>	<b>16,0x</b>

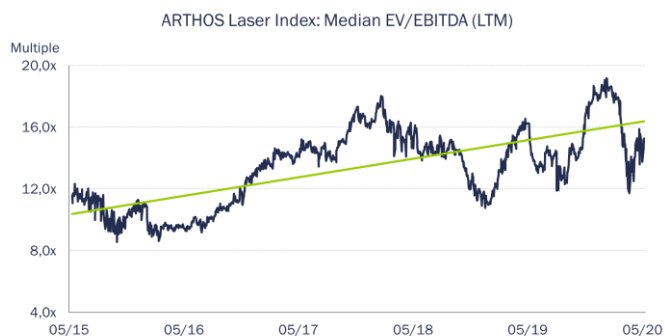
Peer Group includes companies with business focus on Laser; Closing share price as of May 6, 2020; Sales as of published last twelve months.

**ARTHOS Laser Index Performance**



ARTHOS Laser Index includes the companies listed above

**Historic Laser Multiple Analysis**



Median development of historic EV/EBITDA Multiple of the ARTHOS Laser Peer Group

**Personal Note**



Due to Covid-19 capital markets started to decline around February 20 for approximately one month. Since then stock prices are climbing even though the economic impact on future earnings can only be roughly estimated right now. In addition, technology peers were not affected as much as other industries and came back faster. This is not only true for laser companies, which I like to highlight in this newsletter, but also for other vision companies.

As seen in the Laser Index Performance chart below in 2018 valuations of laser companies were losing ground against other technology companies comprised in the TecDAX but during 2019 they caught-up and both indexes are walking in line since then. The median historic EV/EBITDA Multiple of the ARTHOS Laser Peer Group reached remarkable 19x in January and are currently trading almost at 16x. Considering the current environment this is very strong and an obvious sign that investors look beyond 2020.

Right timing for selling a business of course depends not only on the capital market environment but also on the individual business situation. Businesses which are benefitting from Covid-19 can leverage such effect for an M&A project. And if your business is negatively impacted, it is recommendable to take the time to properly prepare to be able to act quickly, when needed. E.g. implement KPIs which are proving your success recipe or create a Covid-19 cost center to be able to subtract such one-time related costs from your P&L. We recommend creating a M&A advisory board for a professional long-term preparation.

**Current Relevant M&A and Market News**

- Sept. 26, 2019:** Nynomic AG acquired Sensortherm GmbH.
- Sept. 30, 2019:** Antares Vision acquired Ft System Srl, a leader in control and inspection in the beverage industry for 67.7m€.
- Oct. 31, 2019:** TKH Group/LMI acquired FocalSpec Oy (nanometer accurate surface topography sensors).
- Nov. 08, 2019:** Photonics Systems Holding GmbH acquired EPP Electronic Production (distributor).
- Nov. 13, 2019:** Teradyne acquired AutoGuide Mobile Robots (supplier of industrial autonomous mobile robots) for 164.7m\$.
- Dec. 12, 2019:** Thorlabs acquired Crystalline Mirror Solutions.
- Nov. - Mar. 2020:** Hexagon AB acquired Volume Graphics, Blast Movement, Geopraevent AG, areal mapping biz of COWI, Romax Technology and CAEfatigue.
- Jan. 7, 2020:** Hesai Technology (LiDAR) finalizes 173 m\$ series C funding with investment led by Bosch and Lightspeed.
- Jan. 27, 2020:** Jenoptik AG announced to acquire Interob SL for ~ 40m\$ (welding machines for the automotive industry).
- Feb. 21, 2020:** 4JET acquired the business unit tire inspection (TIS-Prüfsysteme) of Hennecke Systems.
- Feb. 24, 2020:** Image S A (owned by PE Ambienta) acquired 1st Vision (distributor of machine vision products).
- Feb. 24, 2020:** MXR Imaging Inc. (X-ray systems) acquired the Healthcare Business from Oxford Instruments plc for 15 m\$.
- Feb. 28, 2020:** Alphatec Holdings, Inc. announced to acquire EOS imaging SA. On Apr. 24 the transaction was cancelled.
- Mar 17, 2020:** Motorola reached an agreement to acquire the publicly listed video security firm IndigoVision for 30.4 m£.
- Apr 10, 2020:** Antares announced to acquire 83% of Tradeticity
- Apr 20, 2020:** Haag-Streit Group acquired 77% of VRmagic.

**Notable Recent M&A Transactions**

	➔		<b>Oct. 9, 2019:</b> FormFactor Inc. acquired Fries Research & Technology GmbH (manufacturer of surface metrology tools) incl. earn-out for 25.9 m\$. This acquisition expands FormFactor’s addressable market into 3D surface metrology.
	➔		<b>Oct. 16, 2019:</b> Cognex Corporation acquired Sualab Co. Ltd., a leading developer of artificial intelligence-based deep learning machine vision solutions for ~195 m\$. The acquisition extends company’s deep learning capabilities and accelerates opportunities to automate difficult visual inspection tasks in industrial markets.
	➔		<b>Oct. 18, 2019:</b> ams AG made an offer to acquire the remaining 80% stake in OSRAM Licht and achieved a final acceptance level of 59.9% as of Jan 2. The transaction will be financed from 4.4 bn€ committed bank bridge facility and 1.65 bn€ through rights equity issuance, which was completed on April 3. Anti-trust clearance is outstanding with an expected closing in Q2. ams intends to implement a domination agreement to realise the targeted synergies. The combination creates a global leader in sensor solutions and photonics with ~5 bn€ revenue.
	➔		<b>Oct. 25, 2019:</b> Rudolph Technologies completed the acquisition of Nanometrics in a reverse merger transaction. The stockholders received ~0.8 shares of Nanometrics common stock for each Rudolph share. The combined company offers an expanded portfolio for defect inspection and metrology and was named Onto Innovation Inc.
	➔		<b>Nov. 14, 2019:</b> nLIGHT Inc. acquired Nutronics Inc. (leading developer of coherently combined lasers and beam control systems for high-energy laser systems) for 17.5m\$ in cash and 15.8 m\$ of restricted stock units.
	➔		<b>Nov. 28, 2019:</b> Lumibird SA signed an agreement with Ellex Medical Lasers Ltd. to acquire the laser and ultrasound biz. for 100 mAUD (~60 m€). The acquisition will create a leader for laser and ultrasound technologies for ophthalmology. On Apr. 24 the Ellex GM approved the transaction; closing is expected to occur in Q2.
	➔		<b>Feb. 10, 2020:</b> Atlas Copco signed a business combination agreement to acquire Isra Vision AG for 1.1 b€. Atlas Copco aims to create a global leader in Machine Vision with Isra as nucleus. 78.51% shareholders have tendered their shares as of Apr. 29. Besides CIFUS approval all other offer conditions have been fulfilled.
	➔		<b>Apr. 3, 2020:</b> Teledyne Technologies confirmed that it's been in advanced talks to acquire Photonis International and affiliates for about 550 m\$. Photonis provides advanced photon/electron multipliers, key to night vision applications in defense, low-light imaging applications and mass spectrometry.

**Laser Companies’ Benchmarking (last twelve months)**

	<b>Gross Margin</b>	<b>EBITDA Margin</b>	<b>R&amp;D Margin</b>
	41.8%	15.2%	10.4%
Carl Zeiss Meditec AG	57.2%	19.5%	12.5%
Coherent, Inc.	34.1%	12.9%	6.9%
Conzeta AG	53.4%	12.4%	n.a.
EL.En. S.p.A.	38.1%	10.7%	n.a.
Fanuc Corporation	35.8%	26.4%	n.a.
FLIR Systems, Inc.	48.6%	20.7%	11.1%
Hamamatsu Photonics	50.3%	25.3%	9.0%
Han's Laser Technology	37.5%	7.0%	11.5%
II-VI Incorporated	36.5%	16.3%	12.6%
IPG Photonics Corporation	44.9%	27.5%	10.4%
Jenoptik AG	34.1%	14.7%	5.2%
Keyence Corporation	81.8%	51.8%	n.a.
LPKF AG	61.9%	10.5%	n.a.
Lumibird SA	60.7%	13.0%	n.a.
Lumentum Holdings Inc.	41.6%	26.3%	11.6%
MKS Instruments, Inc.	44.3%	21.2%	8.5%
NeoPhotonics Corp.	27.4%	8.7%	16.2%
NKT A/S	35.0%	-0.3%	n.a.
Novanta Inc.	42.1%	17.7%	8.9%
Olympus Corporation	63.4%	22.9%	n.a.
Onto Innovation Inc.	51.1%	15.7%	15.3%
Prima Industrie SpA	22.4%	3.9%	5.3%
TOWA Corporation	24.6%	8.4%	n.a.
Wuhan Raycus Fiber Laser	26.2%	13.4%	6.4%