



Applied Value Pharma & MedTech Report

Applied Value

H1 2020

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About Applied Value



Applied Value Pharma & MedTech Practice

Pharma & MedTech has been a core practice area for Applied Value since our inception in 1997. Over the last 20 plus years, we have supported a wide range of clients across the health care value chain and across continents.

We generate client value and provide tangible results by applying an unbiased perspective, having a hands-on approach and by recognizing the importance of delivering value fast.

About this report

The purpose of this report is to track the financial performance of major players in the health care industry, from Pharma & Biotech to Medical Equipment & Medical Device makers.

We hope that you find this report insightful, and we welcome feedback or opportunities for further discussions.

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Executive summary

Key takeaways per segment

Pharma & Biotech

- › Big pharma companies are boosting revenue and bolstering their pipelines continuously since 2016 through acquisitions and the in-licensing of earlier-stage drugs
- › COVID-19 has negatively affected sales in Q2, most of firms saw sales fall
- › M&A transactions diminished in H1 2020, total deal value has plunged 84% and total volume has decreased 21% on a yearly basis

Medical Equipment & Devices

- › Surgical volume has continued to rise over the past years, boosting the use of medical equipment & devices
- › However, the revenue growth stagnated in LTM, as some companies experienced a decline in sales due to that many hospitals and practices limited their capital spending as a result of COVID-19
- › Industry yearly EBITDA margin has been stable since 2016, however, profitability has showed a downward trend H1 2020



Applied Value's Pharma & MedTech report tracks the performance of major players in the industry

Pharmaceuticals & Biotech



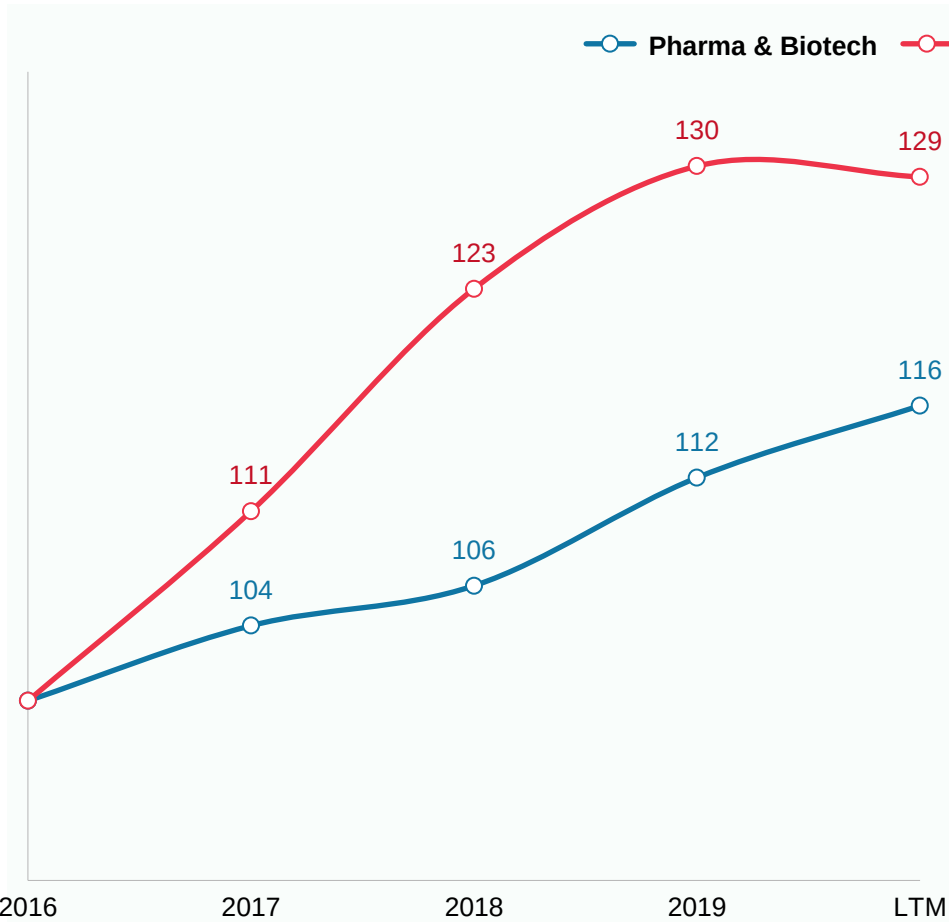
Medical Equipment & Devices



Financial overview (1/3): Yearly revenue and EBITDA performance trend

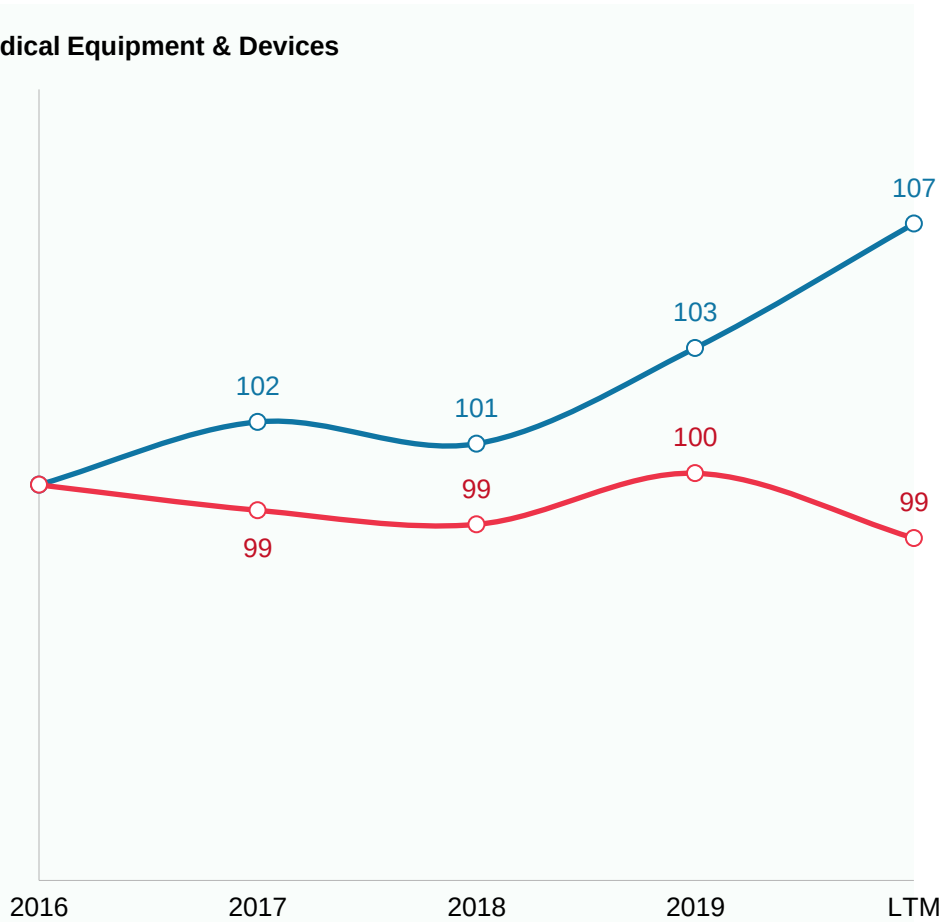
Yearly revenues

2016 - LTM (index 2016=100)



Yearly EBITDA

2016 - LTM (index 2016=100)

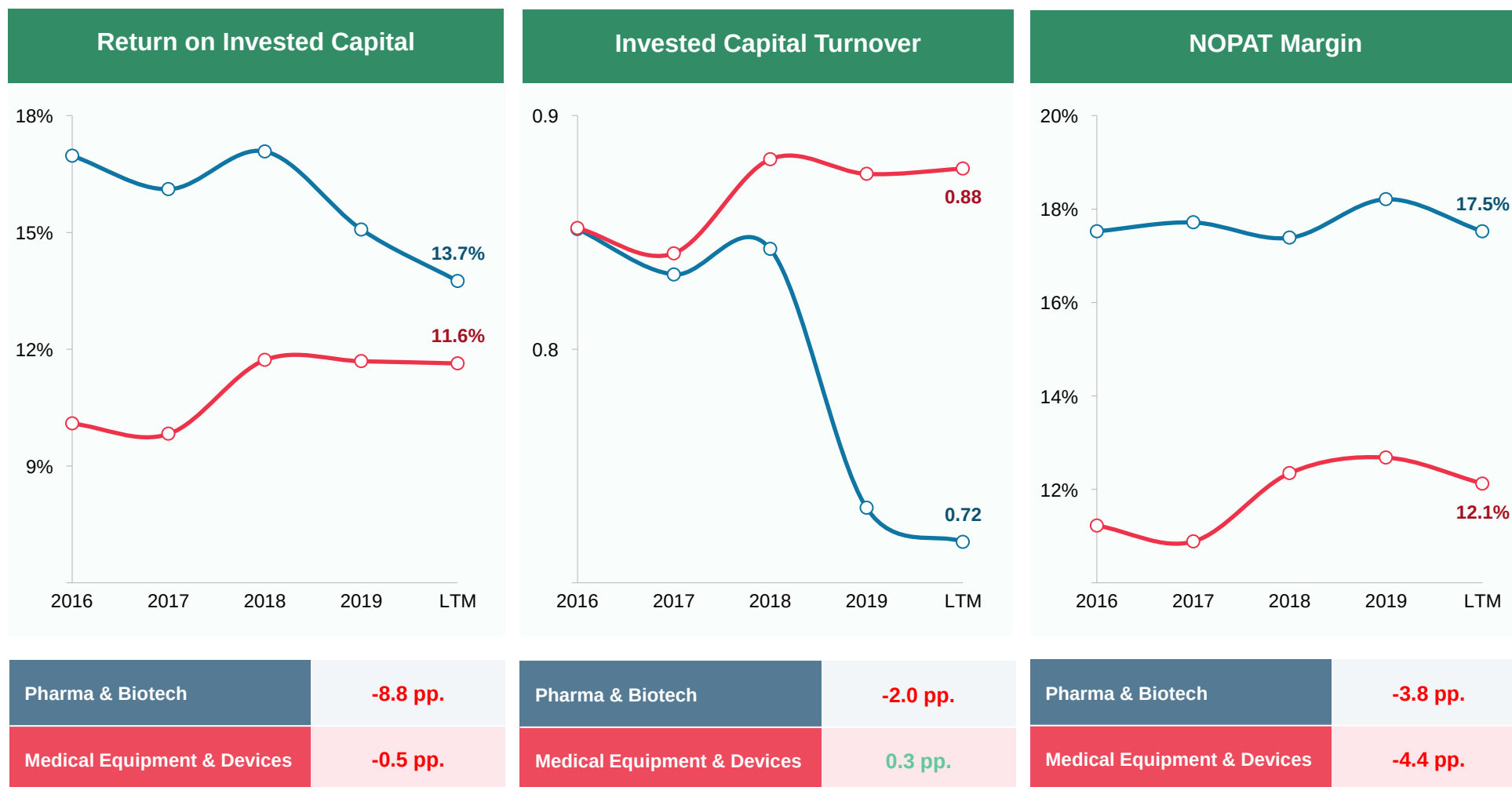


Source: Capital IQ, Annual & quarterly reports, Applied Value Analysis.



Financial Overview (2/3): Yearly ROIC, NOPAT, and ICT performance trend

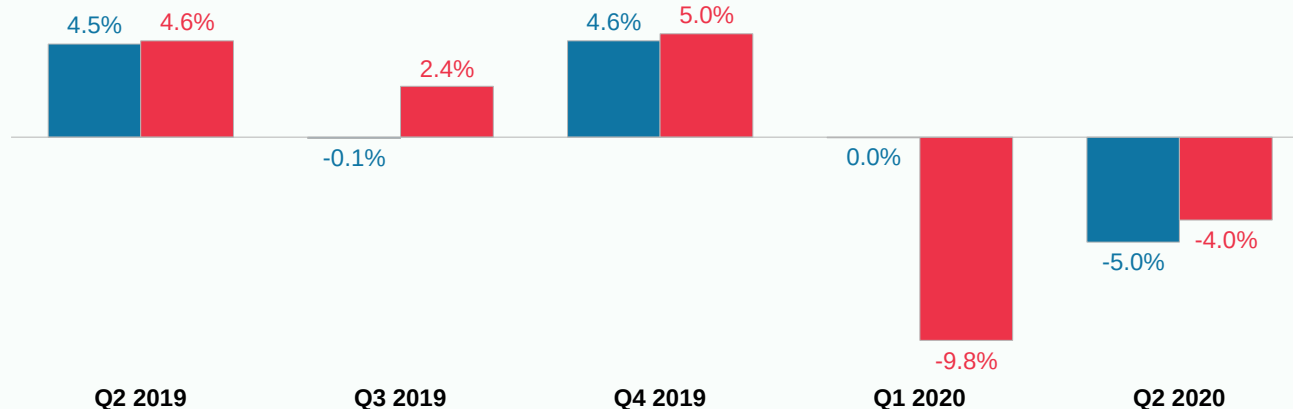
Financial Overview and pp. Change in LTM



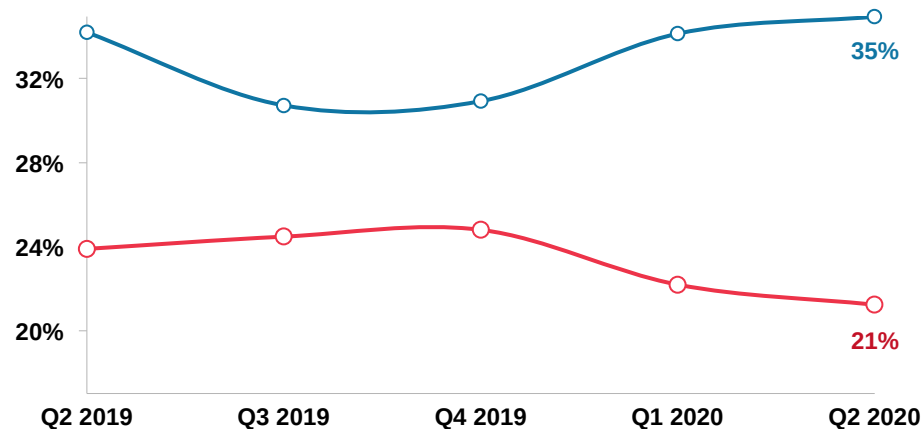
Financial overview (3/3): Quarterly revenue, EBITDA, and NOPAT margin developments

- Major pharmaceutical and biotech companies experienced rapid growth in revenue last year but went through significant falls in 2020, with 9.8% and 4.0% of declines in Q1 and Q2
- Medical equipment companies saw an industry downturn as well, with 5% fall in Q2
- Profit margins for pharma & biotech jumped up in H1 2020, whereas medical equipment margins plunged 4-5 pp.

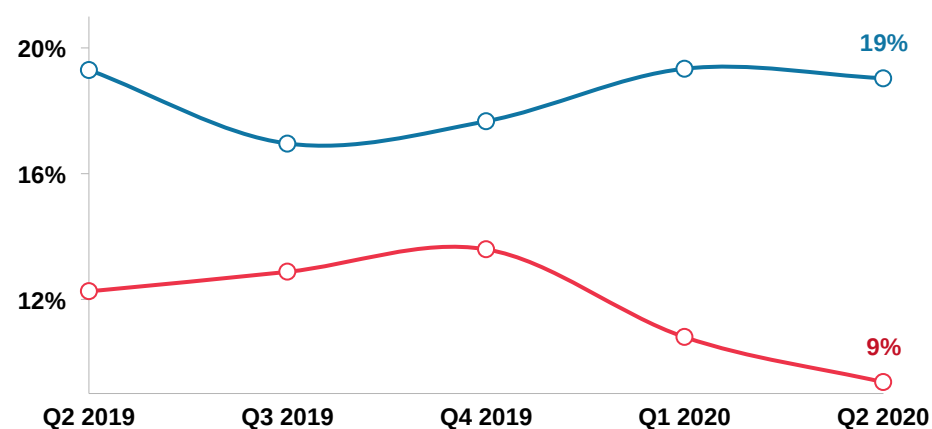
Quarter on Quarter Revenue Growth Rates Q2 19 – Q2 20



Quarterly EBITDA Margin Movement Q2 19 – Q2 20



Quarterly NOPAT Margin Movement Q2 19 – Q2 20



● Pharma & Biotech ● Medical Equipment



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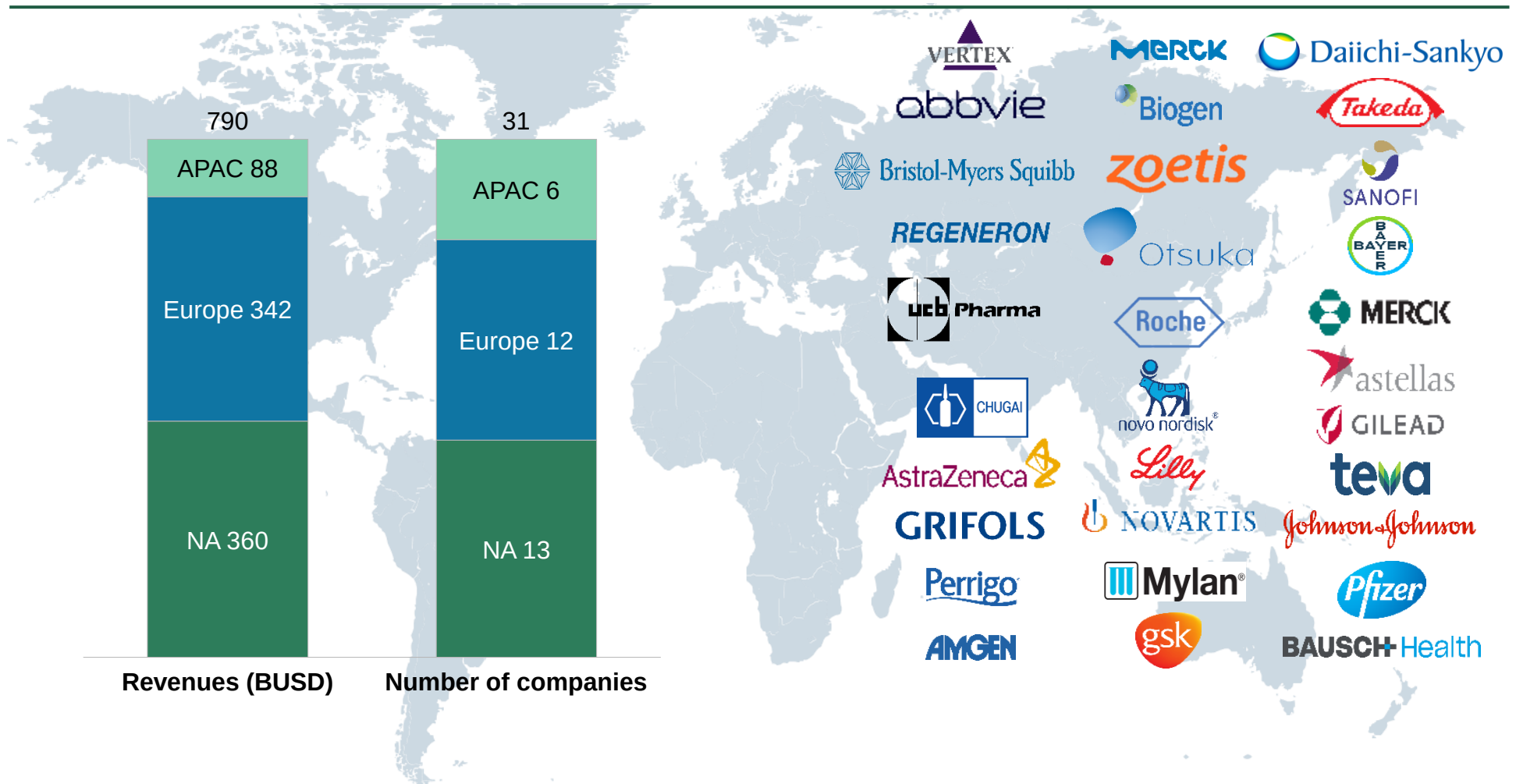
About Applied Value



The H1 2020 report covers 31 of the largest Pharmaceuticals and Biotech players globally, accounting for near 800 billion USD in revenues

Sector overview

Revenue in BUSD



Financial overview of Pharmaceuticals and Biotech segment

Key takeaways

Top performers

Creating Shareholder Value	› Most companies' ROIC located between 5% and 20% with Novo Nordisk emerging as the best performer during the last 12 months › Average ROIC was 12.3%	
Revenue Performance	› Revenue of Pharma & Biotech segment has been growing continuously since 2016 on yearly basis › COVID-19 negatively affected sales in Q2, most of firms saw sales fall. Vertex and Bristol-Myers on the other hand reported a sales growth in Q2'20 YoY	Highest  Fastest growth 
		Highest  Fastest growth 
Margin Performance	› EBITDA margin has continuously been rising since 2018 and reached ~33% in LTM; NOPAT margin remained stable at ~18% › Industry average EBITDA margin was 35% in Q2'20, Biogen was the most profitable company and Vertex had the largest development of 18 pp.	Highest  Fastest growth 
Investment Performance	› The average CAPEX ratio was 3.7% in Q2'20, Chugai Pharma had the highest ratio of 15.7% and the largest increase in CAPEX YoY of 14 pp. › Most firms' R&D expense over sales increased partially due to that revenue fell, and some firms made more investments in R&D on drugs and treatments	Highest CAPEX  Highest R&D 



Top and bottom performing Pharmaceuticals and Biotech companies by revenue change

01



YoY Revenue Change **+62.0%**

YoY EBITDA Margin Change **+17.8 pp.**

2019-LTM EBITDA Margin Change **+ 30.1 pp.**

02



Bristol-Myers Squibb

YoY Revenue Change **+61.5%**

YoY EBITDA Margin Change **+10.0 pp.**

2019-LTM EBITDA Margin Change **-1.90 pp.**

03

abbvie

YoY Revenue Change **+26.3%**

YoY EBITDA Margin Change **-1.20 pp.**

2019-LTM EBITDA Margin Change **-2.2 pp.**

01

BAUSCH+Health

YoY Revenue Change **-22.7%**

YoY EBITDA Margin Change **-4.0 pp.**

2019-LTM EBITDA Margin Change **-6.8 pp.**

02



YoY Revenue Change **-11.0%**

YoY EBITDA Margin Change **-1.2 pp.**

2019-LTM EBITDA Margin Change **-0.2 pp.**

03

Johnson+Johnson

YoY Revenue Change **-10.8%**

YoY EBITDA Margin Change **-3.0 pp,**

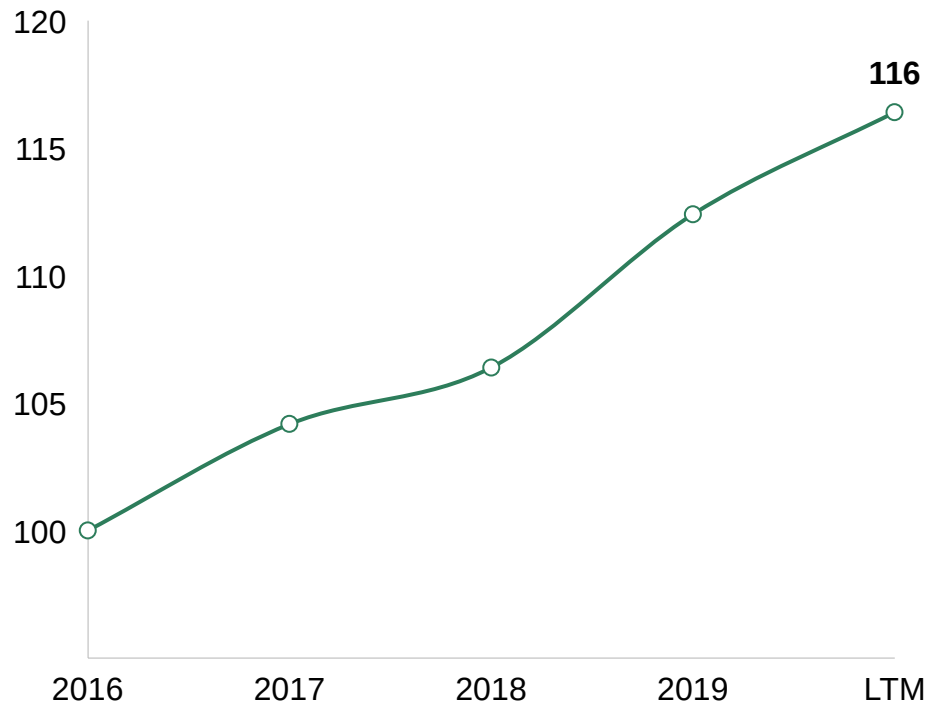
2019-LTM EBITDA Margin Change **-1.2 pp.**



Pharmaceuticals and Biotech segment revenue has been increasing steadily by 16% since 2016 but has seen a 5 pp. QoQ plunge recently

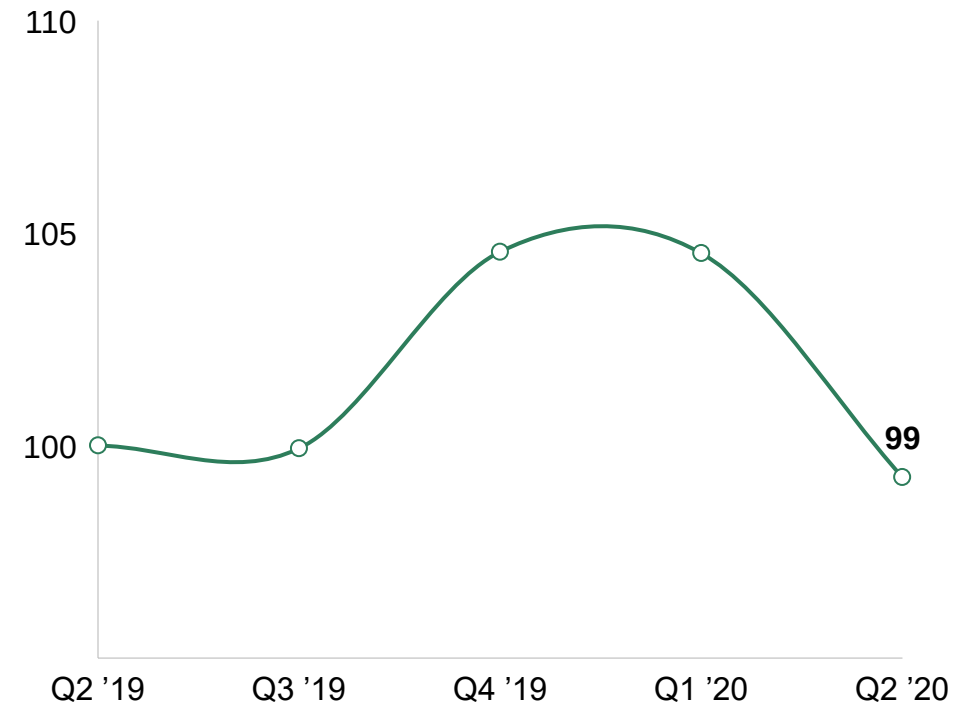
Yearly revenues

2016 - LTM (index 2016=100)



Quarterly revenues

Q2'19 – Q'20 (index Q2'19=100)



- › Big pharma companies are boosting revenue and bolstering their pipelines through acquisitions and the in-licensing of early-stage drugs resulting in a continuous revenue increase

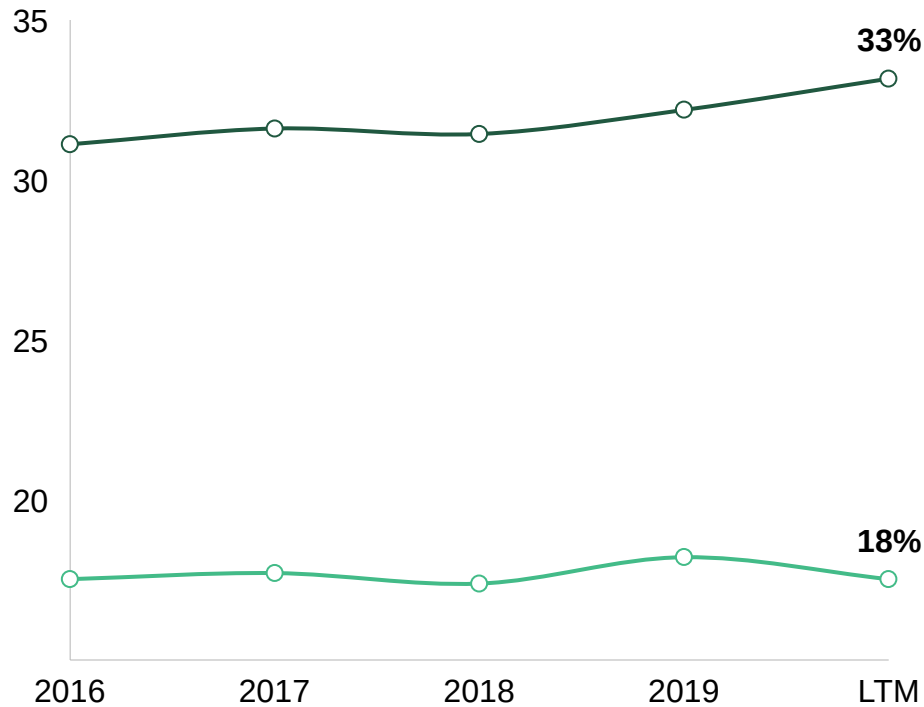
Note: The included companies differ from previous quarter

Source: Capital IQ, Annual & quarterly reports, Applied Value Analysis

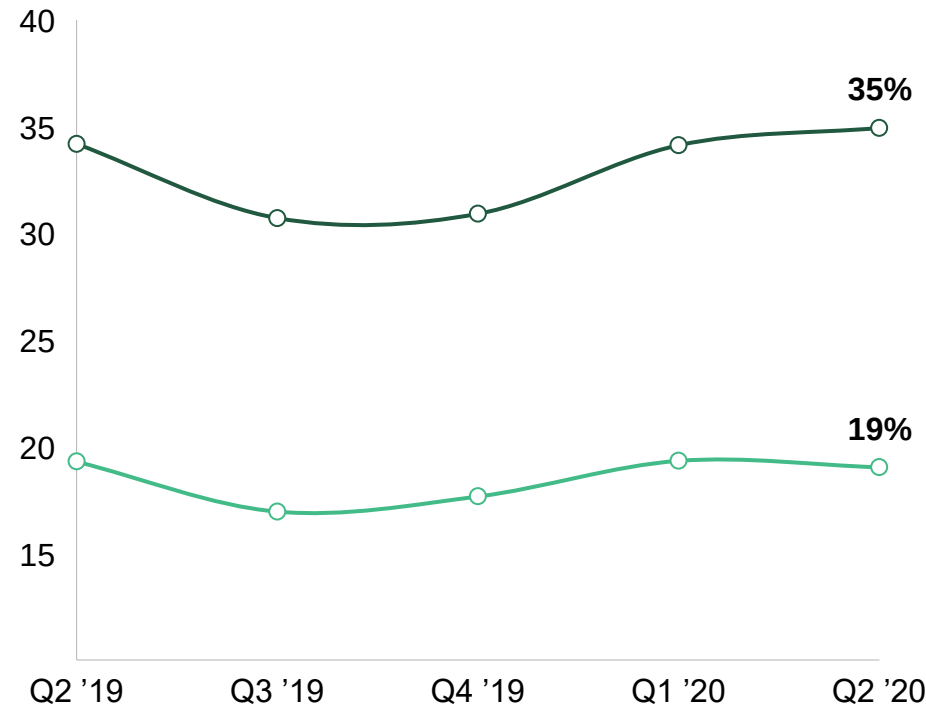


Industry EBITDA margin has been climbing steadily since 2016, and despite recent plunge in revenue, players have been able to keep profitability stable

Yearly profitability
2016 – LTM, %



Quarterly profitability
Q2'19 – Q2'20, %



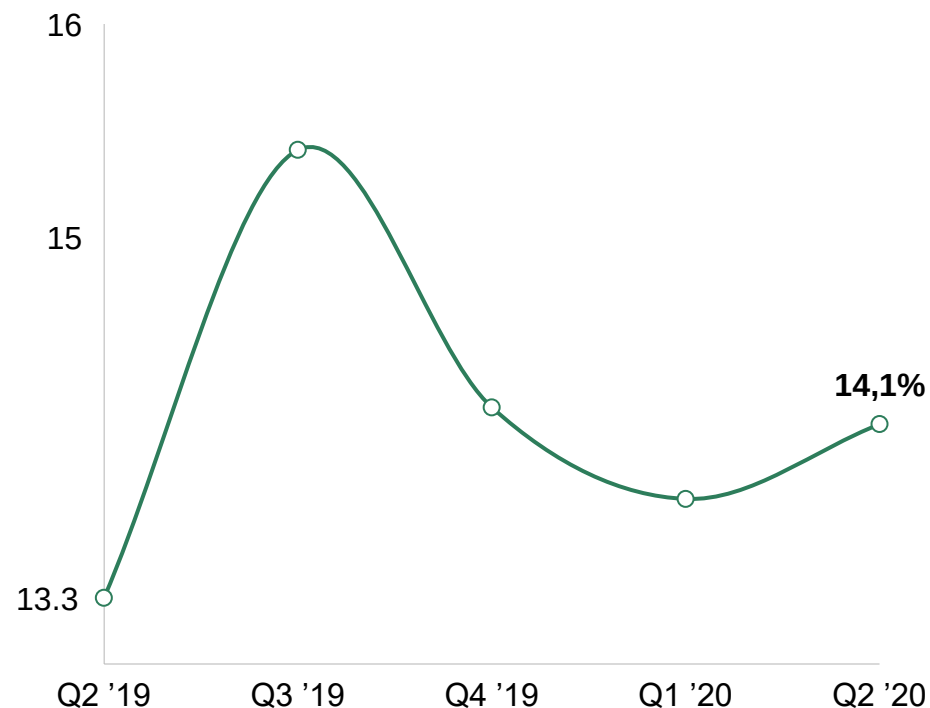
—○— NOPAT —○— EBITDA

Note: The included companies differ from previous quarter.
Source: Capital IQ, Annual & quarterly reports, Applied Value Analysis.

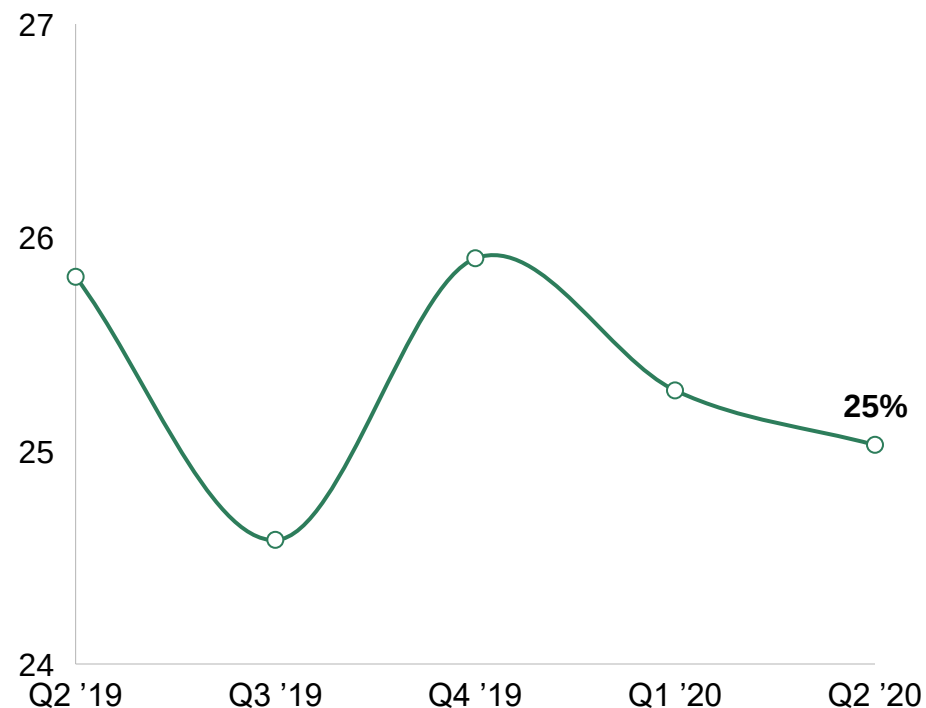


R&D and SG&A ratios have been fluctuating heavily during the past year

Quarterly R&D over Sales
Q2'19 – Q2'20, %



Quarterly SG&A over Sales
Q2'19 – Q2'20, %

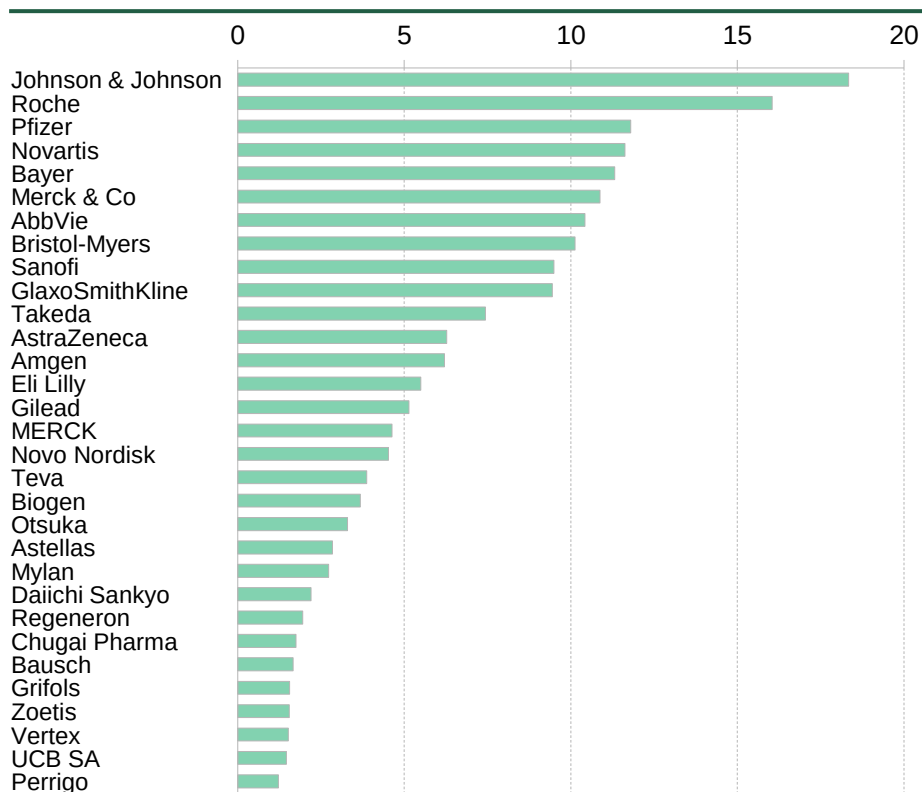


- › SG&A accounts for an average of 25% of total revenue for monitored players, the ratio showed a downward trend partially due to quarantine and sales activities being postponed

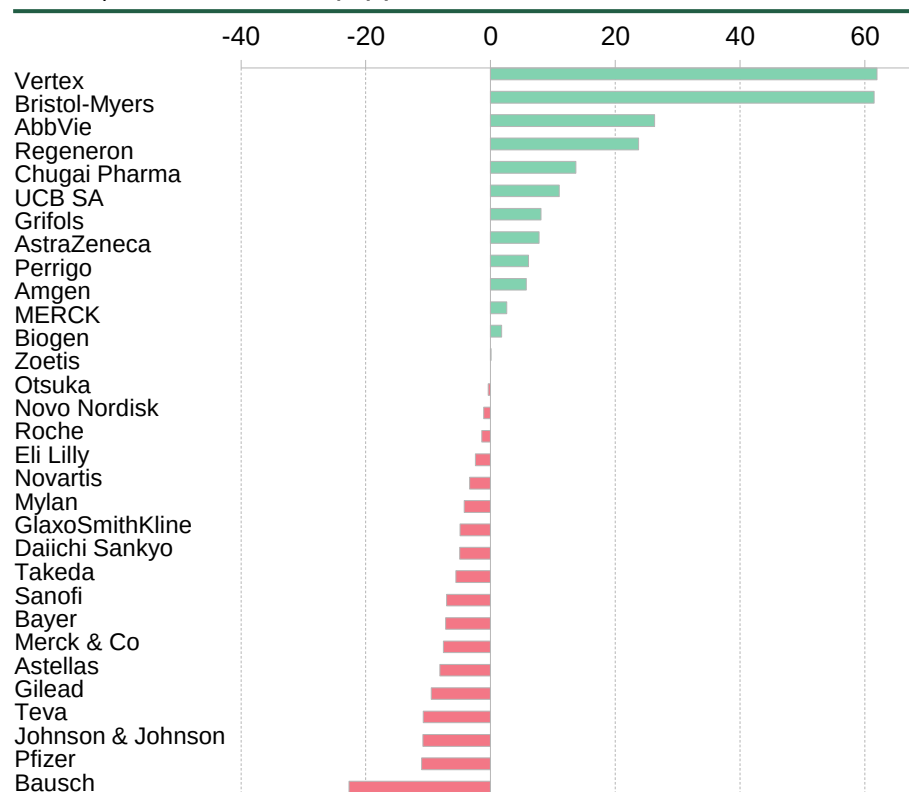


Negatively affected by COVID-19, many players saw revenue declines, whereas Vertex and BM had sharp revenue increases by 62% and 61%

Revenue
Q2'20, BUSD



Revenue development
Delta (Q2'20 vs. Q2'19), pp.

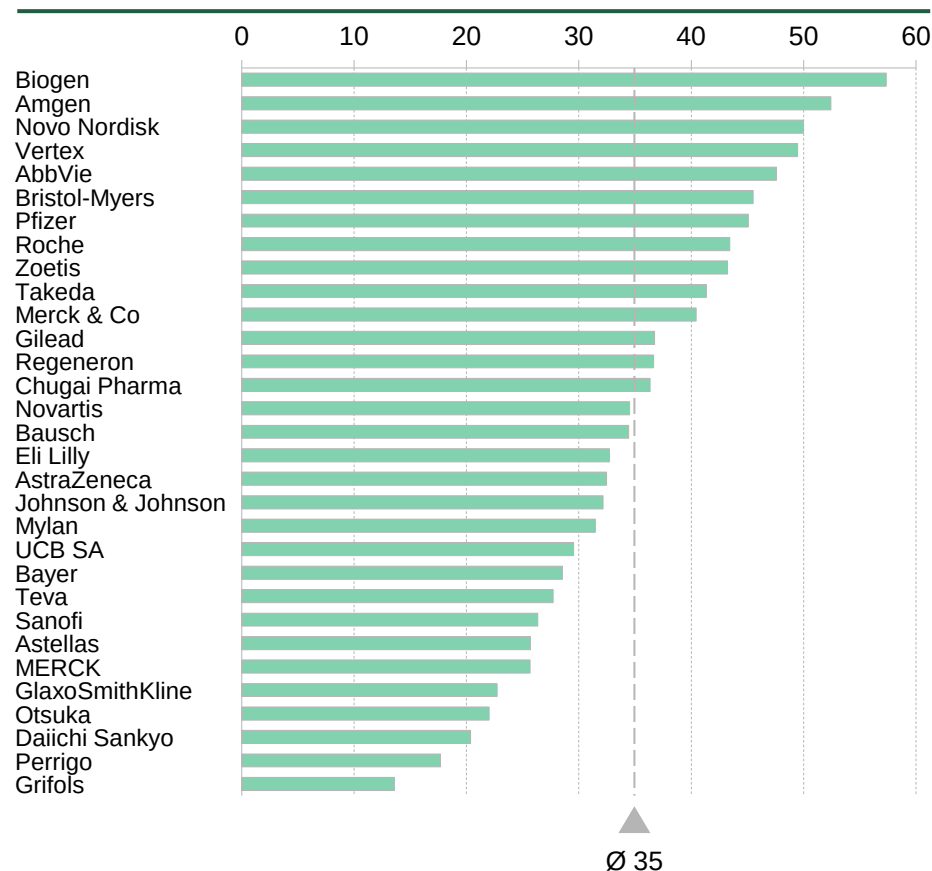


- › Revenue declines have been seen industrywide in Q2 due to COVID related restrictions on in-person meetings with healthcare professionals; physician office closures, hospitalizations and out-patient visits decreased also impacted sales of products
- › Vertex had a sharp revenue growth of 62 pp. YoY, driven by the uptake of its main product Trikafta in the US market along with reimbursement approvals received for Orkambi and Symkevi in some international markets
- › Bristol-Myers' revenue soared 61% in Q2 mainly due to the impact from the Celgene Acquisition. This as the acquisition brought a series of benefits to the firm, including the REVLIMID patent, the revenue from REVLIMID grew sharply in Q2'20

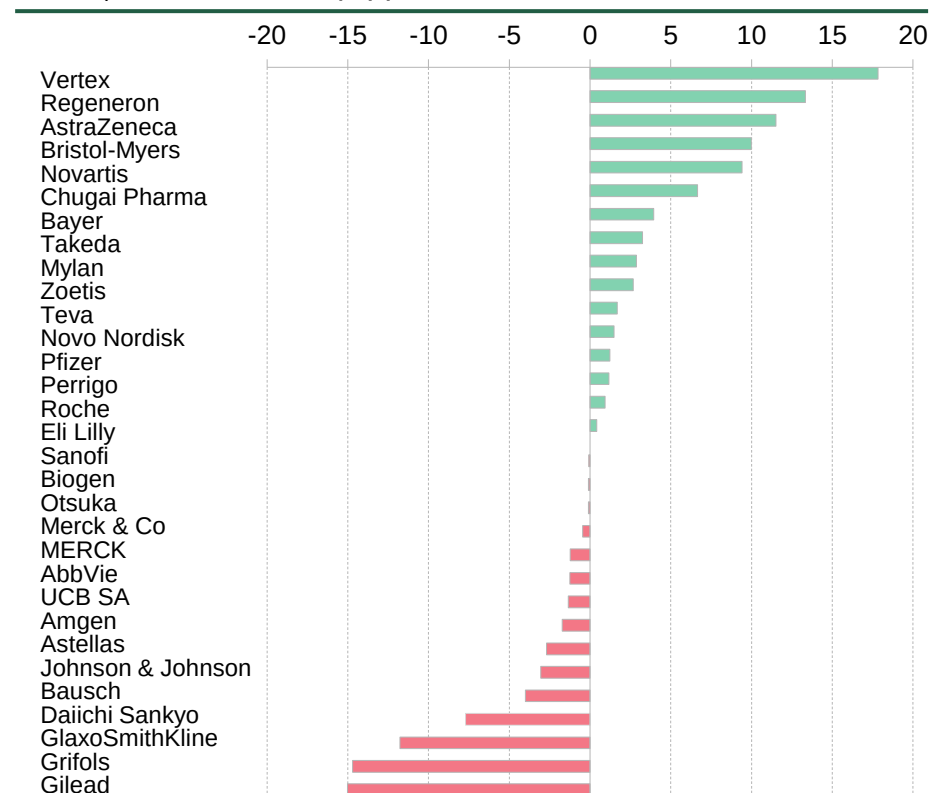


Average EBITDA in Q2'20 was 35%, with Vertex enjoying highest growth in profitability and Gilead suffering largest decline

EBITDA
Q2'20, %



EBITDA development
Delta (Q2'20 vs. Q2'19), pp.

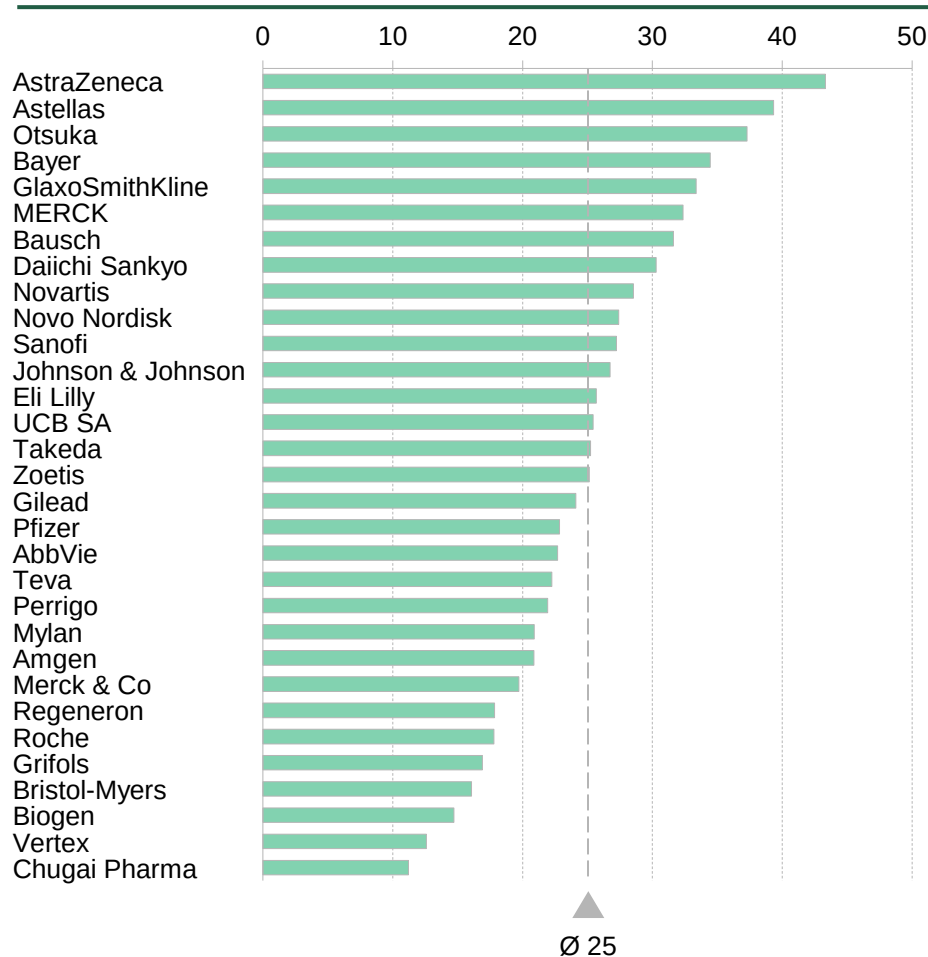


- › Vertex saw EBITDA rate increase by 18 pp. YoY, due to lower SG&A and soaring revenue in both US and international markets
- › Gilead profitability decreased in Q2'20 due to weak sales volumes of chronic hepatitis C virus (HCV) products, Truvada-based products, as COVID-19 lowered healthcare provider (HCP) visits

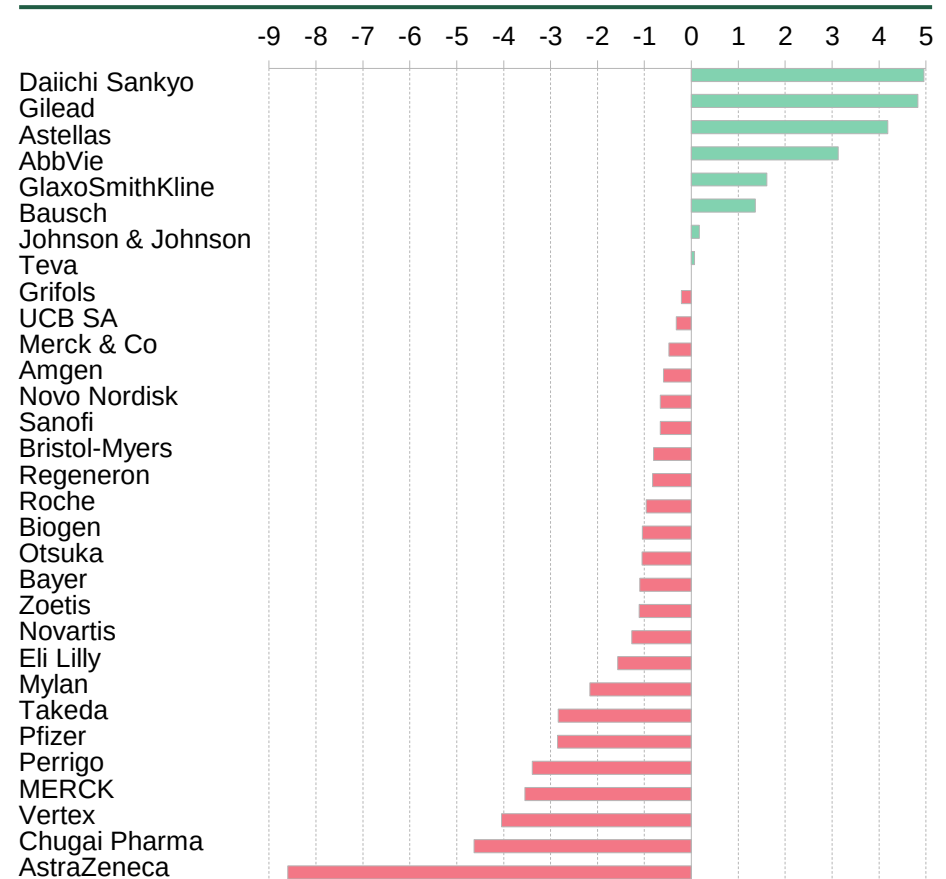


Avg. industry SG&A margin was 25% in Q2'20, and most of the monitored players saw declines due to lower revenue and fewer promotion events

SG&A margin
Q2'20, %

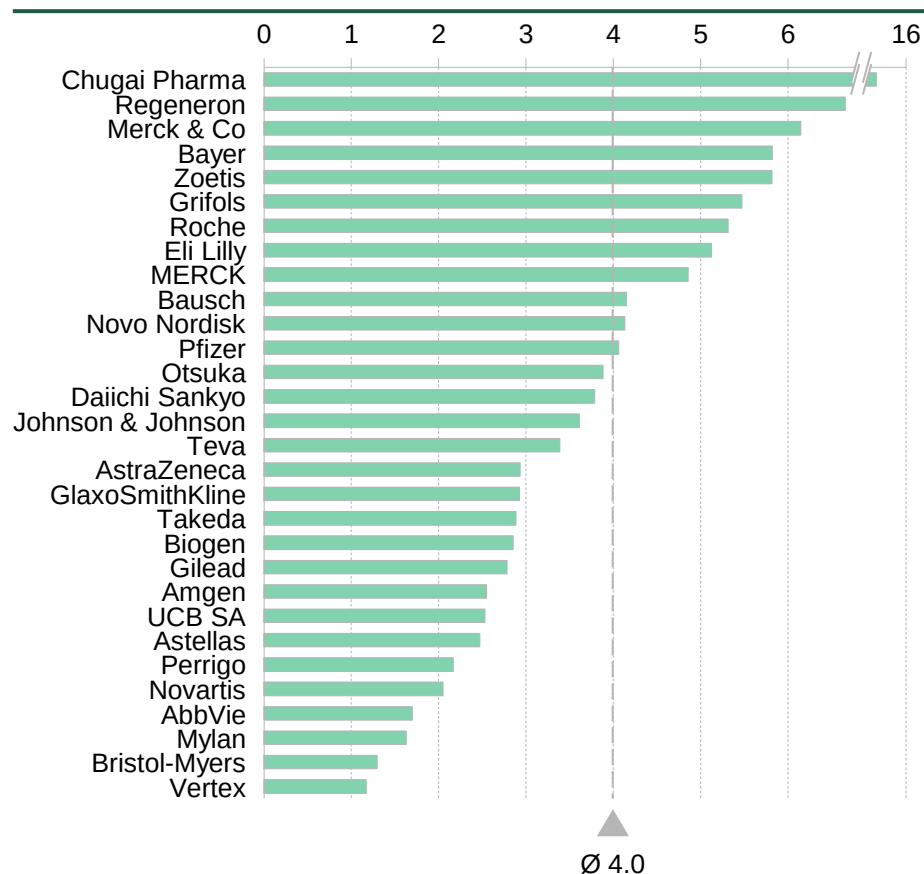


SG&A margin development
Delta (Q2'20 vs. Q2'19), pp.

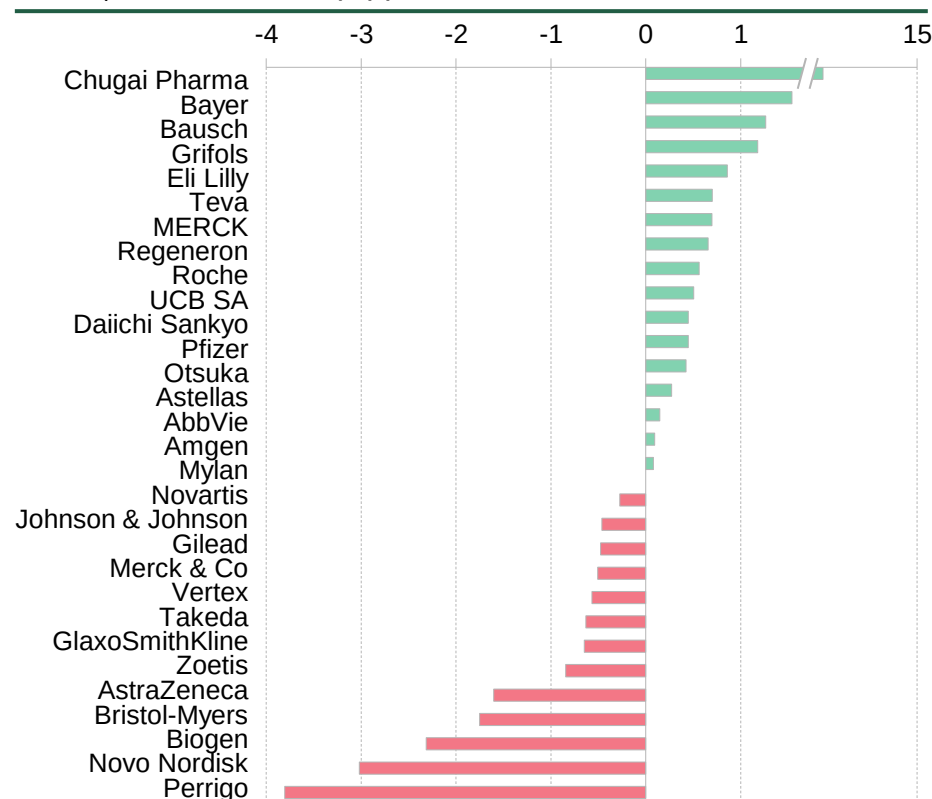


The average CAPEX ratio was 3.7% in Q2'20, with Chugai Pharma having the largest increase of 14 pp. and reaching 15.6% of CAPEX over sales in Q2'20

CAPEX over sales
Q2'20, %



CAPEX over sales development
Delta (Q2'20 vs. Q2'19), pp.



- Chugai Pharma's capital expenditure increased by 2.9% valued at about \$203 million largely due to the investment in Chugai Life Science Park Yokohama; the purpose of this lab is to facilitate drug discovery and delivery

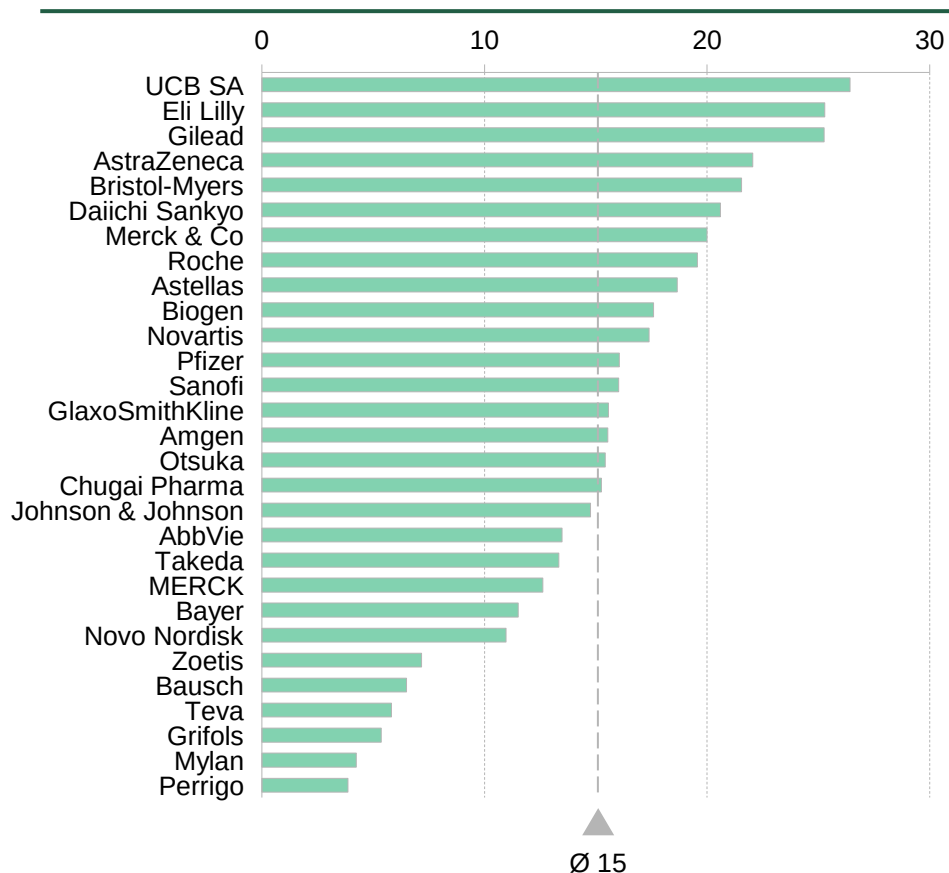
Note: Sanofi was excluded from the above charts, due to different accounting principal, Sanofi included CAPEX expense as part of operating expenditure

Source: Capital IQ, Annual & quarterly reports, Applied Value Analysis

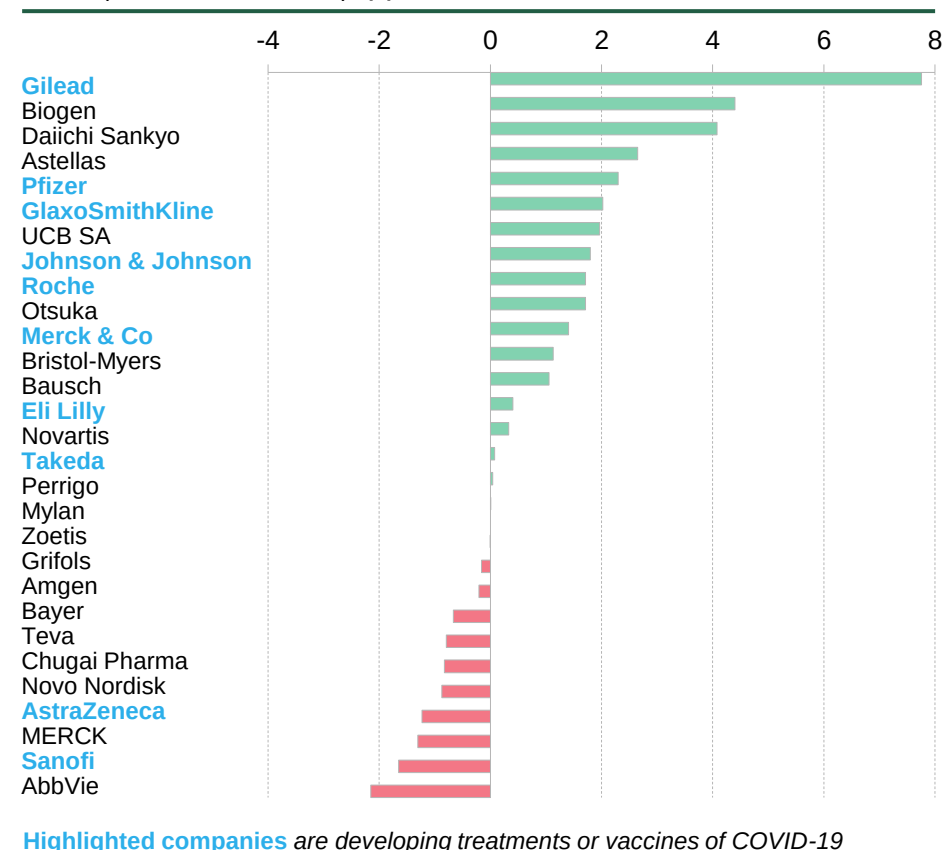


R&D ratio grew as revenue fell, and many companies invested more on medicines and treatments developments including a COVID-19 vaccine

R&D expense over sales
Q2'20, %



R&D expense over sales development
Delta (Q2'20 vs. Q2'19), pp.



- Highlighted companies are working on treatments or vaccines of COVID-19, some of them increased investments for COVID-19 treatments and vaccines developments in Q2'20, such as GSK and Pfizer
- Gilead R&D expenditure over sales increased dramatically in Q2'20 by 7.8 pp. YoY mainly due to remdesivir related higher clinical trial and manufacturing ramp-up expenses

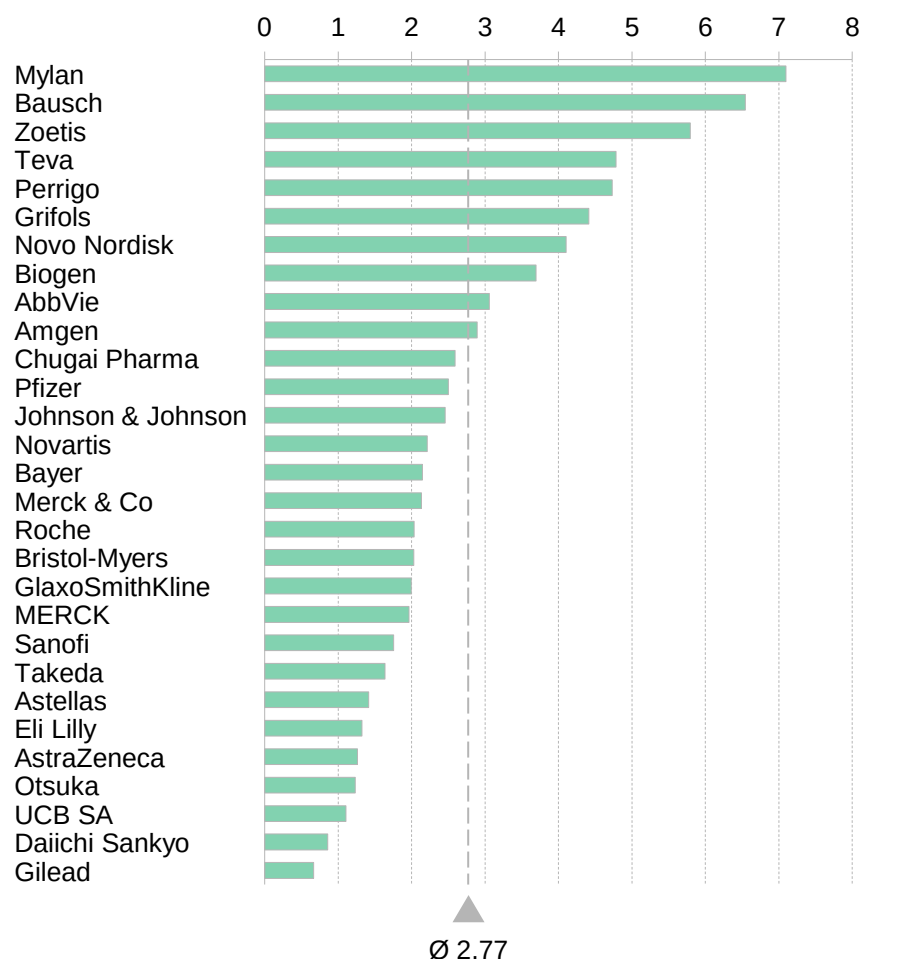
Note: Vertex and Regeneron were excluded from above charts, due to different accounting principal, Vertex and Regeneron included R&D expense as part of operating expense

Source: Capital IQ, Annual & quarterly reports, Applied Value Analysis.



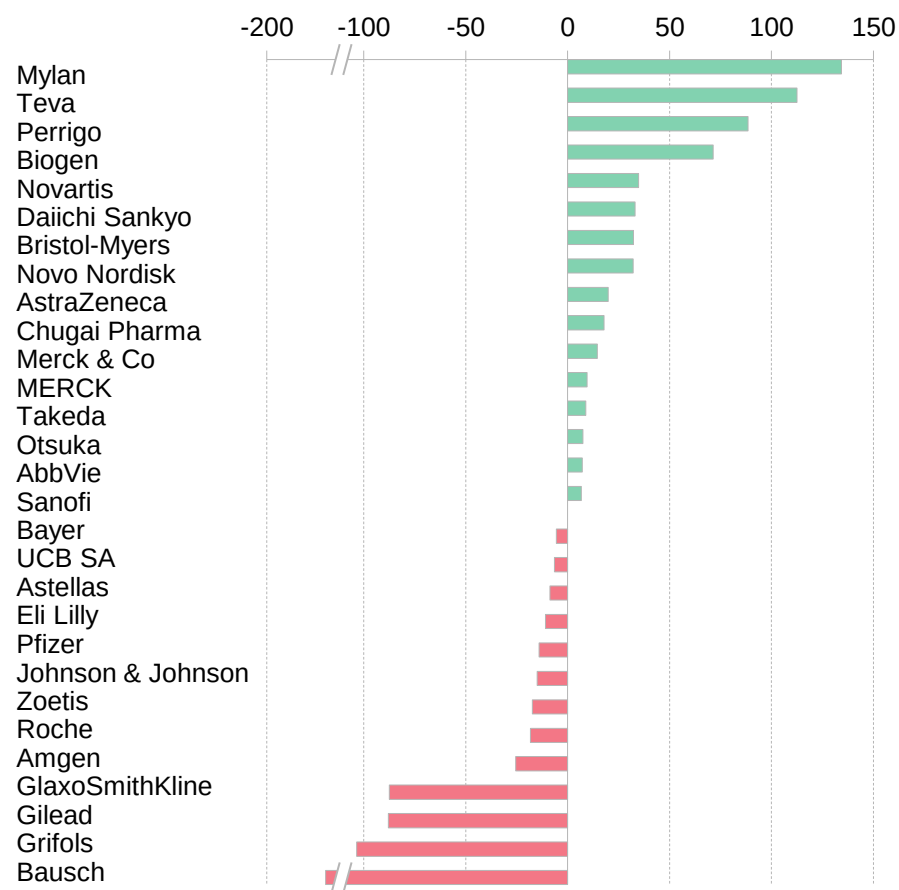
Industry average return on research capital ratio was ~2.8 LTM, with many players outperforming 2019 numbers

Return on research capital ratio, LTM



Return on research capital ratio

Delta (LTM vs. 2019), %



Note: Return on research capital is calculated by dividing current gross profits by the prior year's R&D expenditures. Vertex and Regeneron were excluded from above charts, due to different accounting principal, Vertex and Regeneron included R&D expense as part of operating expense

Source: Capital IQ, Annual & quarterly reports, Applied Value Analysis.



The chart displays the relationship between NOPAT Margin (x-axis, 0% to 45%) and Capital Turnover Ratio (y-axis, 0.3 to 2.1) for various pharmaceutical companies. Dotted curves represent ROIC LTM levels from 2% to 60%. Novo Nordisk is highlighted as the 'Best Performer' with a yellow star and a green dashed box. A red dot indicates the 'Average' performance.

Company	NOPAT Margin (incl. goodwill)	Capital Turnover Ratio (incl. goodwill)	ROIC LTM (approx.)
Vertex	2%	0.85	10%
Otsuka	5%	0.82	10%
Takeda	6%	0.32	5%
Bayer	9%	0.92	15%
Novartis	10%	0.72	10%
Chugai Pharma	11%	0.95	20%
UCB SA	12%	0.48	15%
Perrigo	12%	0.48	10%
Sanofi	14%	0.42	15%
Mylan	14%	0.45	10%
Astellas	14%	0.90	15%
Eli Lilly	14%	1.05	20%
Regeneron	19%	1.45	40%
Merck & Co	18%	0.80	20%
AstraZeneca	19%	1.25	25%
Grifols	18%	1.05	20%
GlaxoSmithKline	20%	0.90	25%
Pfizer	20%	0.42	15%
Bristol-Myers	20%	0.35	10%
Roche	26%	1.30	35%
Johnson & Johnson	22%	0.75	25%
Zoetis	22%	0.55	15%
Amgen	31%	0.52	20%
Biogen	36%	0.90	30%
Gilead	43%	0.85	40%
Novo Nordisk	34%	1.95	55%

Source: Capital IQ, Annual & quarterly reports, Applied Value Analysis.



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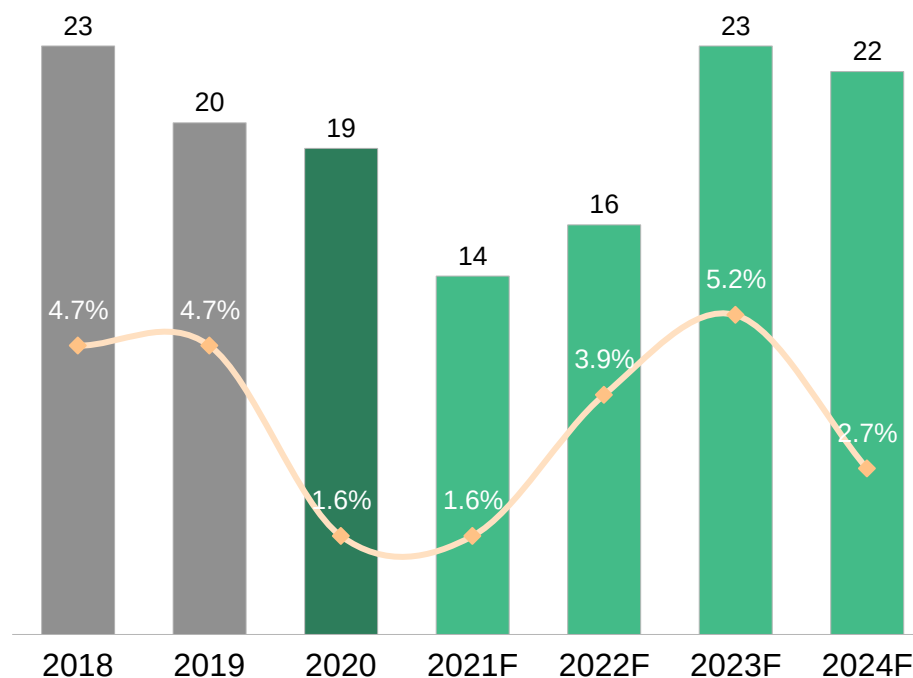


Recent events across the Pharmaceuticals & Biotech segment and loss of sales forecast due to patent expiration

News and happenings

May-2020	Merck announced a partnership with privately held Ridgeback Biotherapeutics to develop an experimental oral antiviral drug against COVID-19, the respiratory disease caused by the novel coronavirus
July-2020	Sanofi recently sold its stake in Regeneron Pharmaceuticals Inc. for \$11.7 billion, is looking at acquiring US biotech Principia Biopharma Inc. Sanofi is also exploring potential acquisitions of other US biotechs
July-2020	Sanofi and GSK strike \$2.1 billion deal with United States for a coronavirus vaccine — the largest contract yet from the US government
July 2020	Pfizer and BioNTech have agreed to supply Japan with 120 million doses of their experimental coronavirus vaccine in the first half of 2021
Aug-2020	The United States government will pay Johnson & Johnson over \$1 billion for 100 million doses of its potential coronavirus vaccine, which is priced between \$10-\$14.5 per dose
Aug-2020	Novartis' cell therapy Kymriah could help treat patients with a type of blood cancer, potentially supporting the Swiss drugmaker's plans to ask US and EU regulators to expand approval of the treatment

Sales at risk from patent expiration, BUSD, 2018-2024F

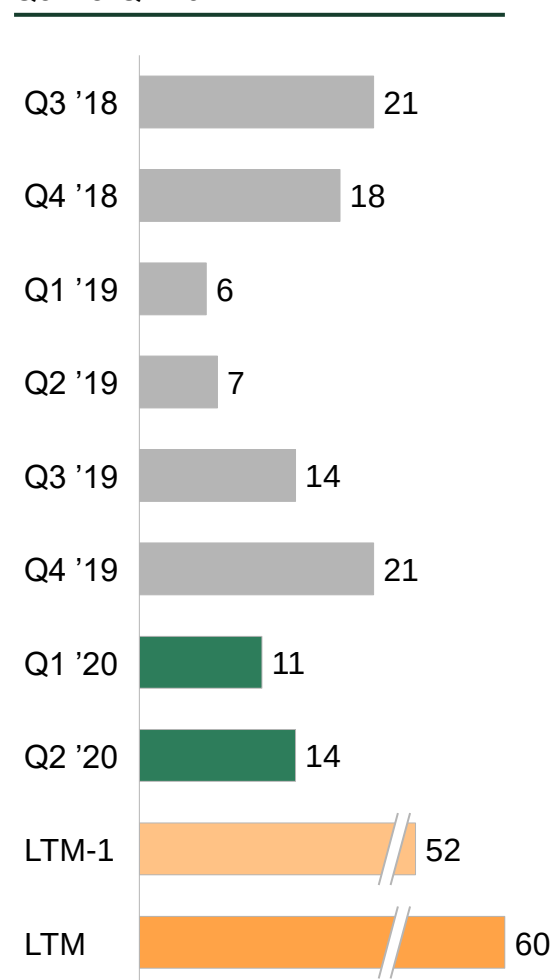


Patent expiration will result in sales loss during 2020-2021 and is expected to rebound in 2022



Number of FDA approved drugs almost doubled in Q2'20, compared to the same quarter last year

Number of FDA Approved Drugs,
Q3 '18-Q2'20

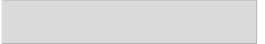
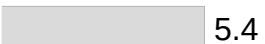
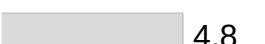
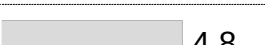
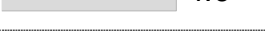


Most recent FDA Novel Drug Approvals

Drug	Date of Approval	Company	FDA-approved use
Xeglyze	7/24	Dr Reddys	› To treat head lice
Inqovi	7/7	Otsuka	› To treat adult patients with myelodysplastic syndromes
Rukobia	7/2	Viiv Hlthcare	› To treat HIV
Byfavo	7/2	ACACIA	› For sedation
Dojolvi	6/30	Triheptanoin	› To treat molecularly long-chain fatty acid oxidation disorders
Zepzelca	6/15	Jazz	› To treat metastatic small cell lung cancer
Uplizna	6/11	Viela Bio	› To treat neuromyelitis optica spectrum disorder
Tauvid	5/28	Avid Radiopharms	› Diagnostic agent for patients with Alzheimer's disease
Artesunate	5/26	Amivas	› To treat severe malaria
Cerianna	5/20	Zionexa	› Diagnostic imaging agent for certain patients with breast cancer
Qinlock	5/15	Deciphera Pharms	› To treat advanced gastrointestinal-stromal tumors



Among 10 top pharmaceutical R&D projects, 3 of them are targeting at Autoimmune and having phase III trial

Product	NPV ¹ (BUSD)	Company	Therapeutic Area	Phase	Est. Completion
Tirzepatide	 11.7		Diabetes	Phase III	Apr-2024
BMS-986165	 6.7		Autoimmune	Phase III	July-2020
TransCon Growth Hormone	 5.4		GHD	Phase III	Dec-2021
Bempegaldesleukin	 4.8		Cancer	Phase III	March-2022
SAGE-217	 4.8		Depression	Failure	--
Tezepelumab	 4.7		Asthma	Phase III	Dec-2023
Mirikizumab	 4.7		Autoimmune	Phase III	June-2023
mRNA-2752	 4.6		Cancer	Phase I	July-2021
Efgartigimod	 4.4		Autoimmune	Phase III	Oct-2021
RG7828	 4.1		Blood Cancer	Phase I	--

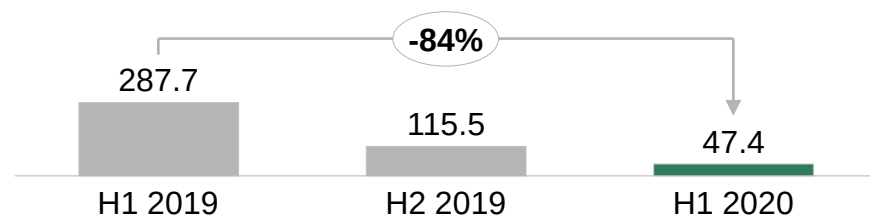
- › Eli Lilly's diabetes drug Tirzepatide has the highest NPV, with a net present value of 11.7 billion USD. Drugs targeting cancer and autoimmune conditions are most present among the top projects



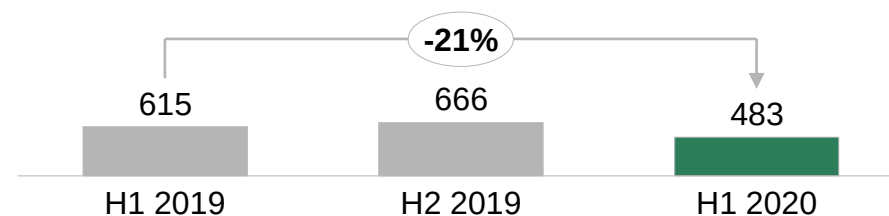
M&A transaction diminished in H1 2020, total deal value has plunged 84% and total volume has decreased 21% on a yearly basis

Company	Target	Close Date	Value, USD	Target Description	Acquisitions
 Bristol-Myers Squibb		11/21/2019	72 B	BMS finished the acquisition of Celgene for \$72 billion in a cash and stock deal for a broad portfolio of pipelines	
		05/08/2019	62 B	AbbVie completed the acquisition of Allergan to diversify its pipeline to counteract Humira biosimilar competition	
		07/30/2020	11.5 B	Pfizer finished the acquisition of Array BioPharma for \$11.5 billion in cash for pipeline to treat metastatic melanoma.	
		04/06/2020	4.9 B	Gilead bought Forty Seven for \$4.9B in cash to bolster its cancer drug pipeline and advance work in immuno-oncology	
		-	2.1 B	Novo Nordisk announced to buy Corvidia in June 2020 to move further into Cardiovascular disease.	
		06/19/2020	1.2 B	Merck has struck a deal to buy Themis to accelerate the development of a COVID-19 vaccine.	

Total M&A transaction amount, BUSD



Total M&A transaction volume



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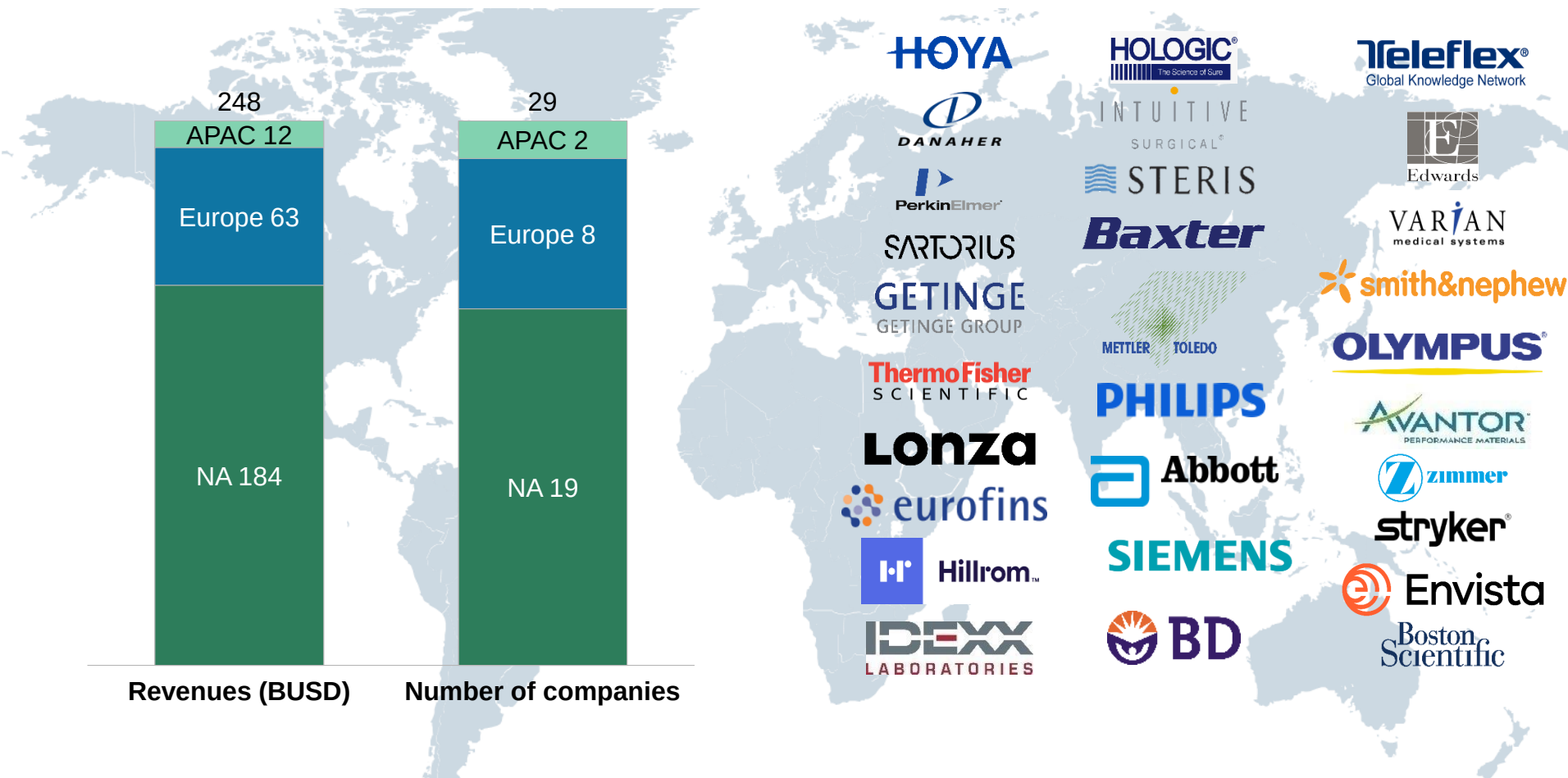
About Applied Value



The Q2 2020 report covers 29 of the Medical Equipment & Devices players globally, accounting for 248 billion USD in revenues

Sector overview

Revenue in BUSD



Note: The included companies differ from previous quarter.

Source: Capital IQ, Annual & quarterly reports, Applied Value Analysis.



Financial overview of Medical Equipment & Devices segment

Key takeaways

Creating Shareholder Value	› IDEXX and Mettler-Toledo were the best performers in creating shareholder value in LTM, with ROIC of 34% and 29% respectively › ROIC ratios of selected companies were in range of 1% to 34%, and the average ROIC was 12.1%	Top performers  
Revenue Performance	› Industry revenue has been keeping the momentum of growth since 2016, but with negative impact from the pandemic, sales fell 1% YoY in LTM › Most of the players in the Medical Equipment & Devices segment have seen a revenue decline YoY, Envista experienced the most significant fall of 49%	Highest  Fastest growth 
Margin Performance	› Yearly profitability has been flattened since 2016 while both quarterly EBITDA and NOPAT showed a continues downward trend in Q2'20 › Industry average EBITDA margin was 21.1% in Q2'20, with Hillrom experiencing the largest growth in EBITDA rate while Envista profitability plummeted	Highest  Fastest growth 
Investment Performance	› The average industry CAPEX over sales ratio was 5.2% in Q2'20, whereas Lonza had the highest ratio of 13.5% › Edwards had the highest growth of 5.7 pp.	Highest  Fastest growth 



Top and bottom performing medical equipment companies by revenue change

01



YoY Revenue Change **+19.2%**

YoY EBITDA Margin Change **0 pp.**

2019-LTM EBITDA Margin Change **-1 pp.**

02

SARTORIUS

YoY Revenue Change **+17.8%**

YoY EBITDA Margin Change **+0.8 pp.**

2019-LTM EBITDA Margin Change **-0.2 pp.**

03



YoY Revenue Change **+12.3%**

YoY EBITDA Margin Change **+6.8 pp.**

2019-LTM EBITDA Margin Change **+3.3 pp.**

01



YoY Revenue Change **-49.0%**

YoY EBITDA Margin Change **-20.2 pp.**

2019-LTM EBITDA Margin Change **-34.0 pp.**

02



YoY Revenue Change **-38.3%**

YoY EBITDA Margin Change **-17.0 pp.**

2019-LTM EBITDA Margin Change **-9.9 pp.**

03



YoY Revenue Change **-24.3%**

YoY EBITDA Margin Change **-13.5 pp.**

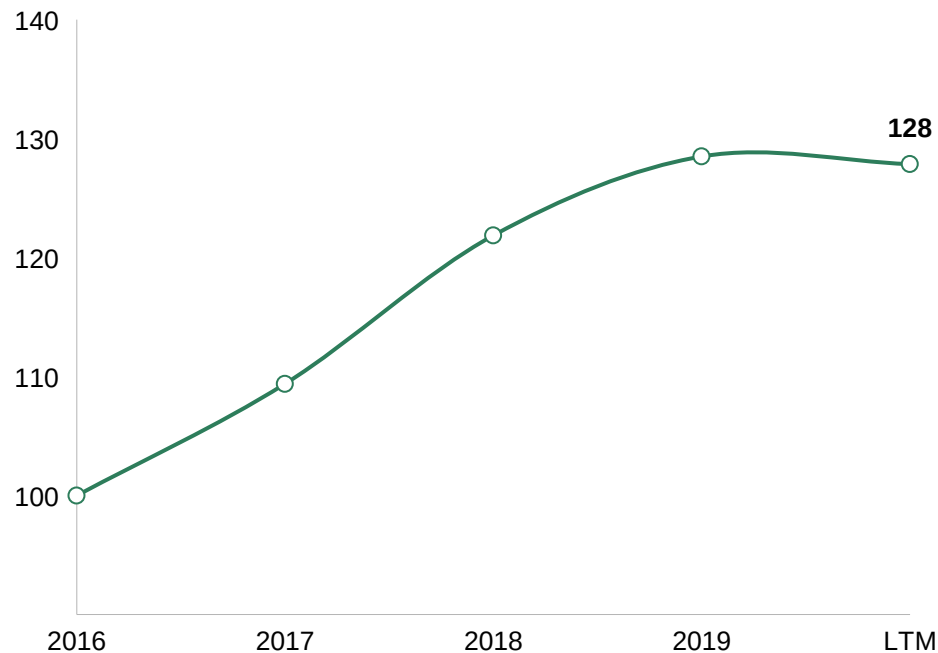
2019-LTM EBITDA Margin Change **-6.1 pp.**



Industry yearly revenue flattened during LTM and quarterly revenue saw strong fluctuations over last 3 quarters

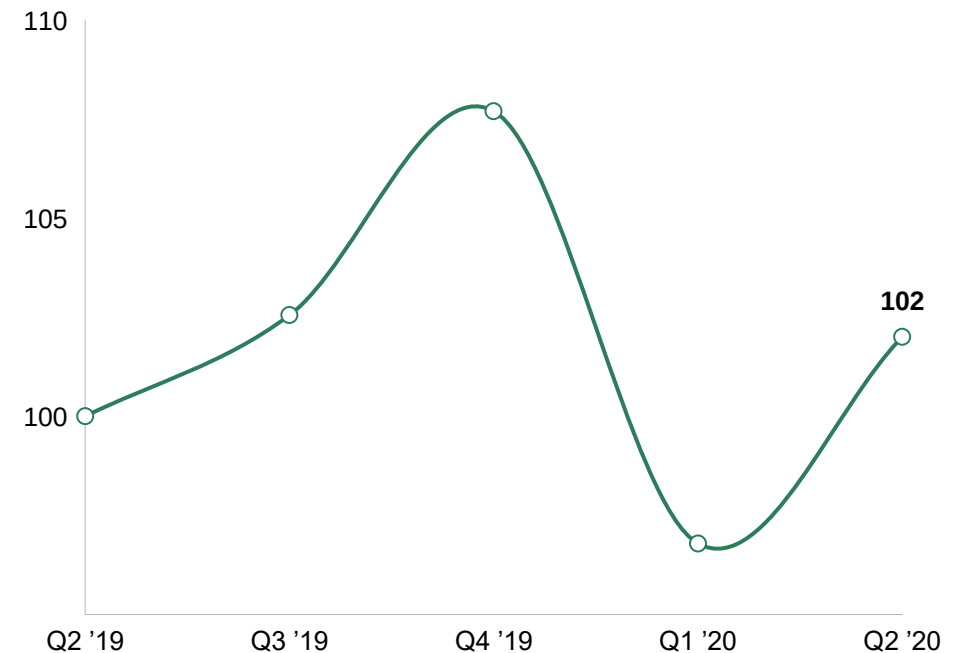
Yearly revenues

2016 - LTM (index 2016=100)



Quarterly revenues

Q2'19 – Q2'20 (index Q2'19=100)

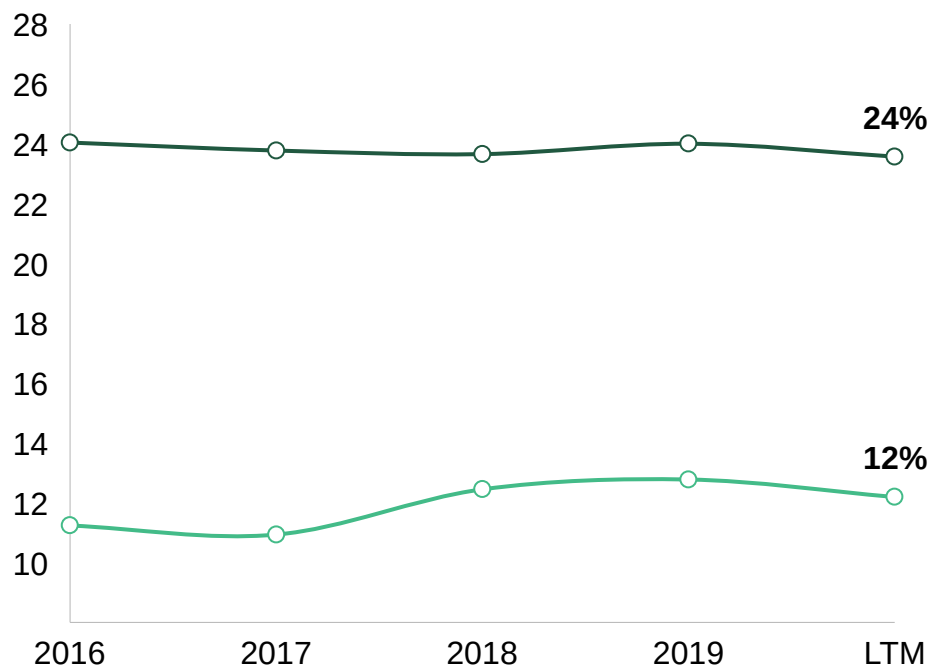


- › Surgical volume has continued to rise over the past years, boosting the use of medical equipment & devices
- › However, the revenue growth stagnated in LTM as some companies experienced a decline in sales because many hospitals and practices limited their capital spending as a result of COVID-19
- › The Q1 revenue plunged sharply due to pandemic related quarantine; In Q2'20, the industry has experienced a sharp recovery in revenue partially driven by a gradually reopening of practices and clinics

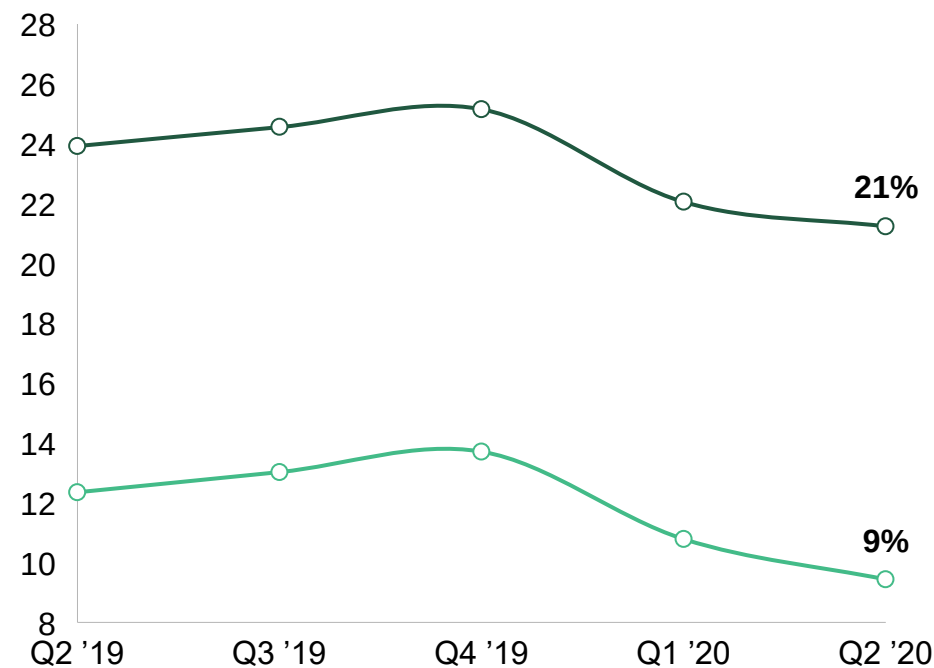


Industry yearly EBITDA margin has been stable since 2016, however profitability has showed a downward trend in H1 2020

Yearly profitability
2016 – LTM, %



Quarterly profitability
Q2'19 – Q2'20, %

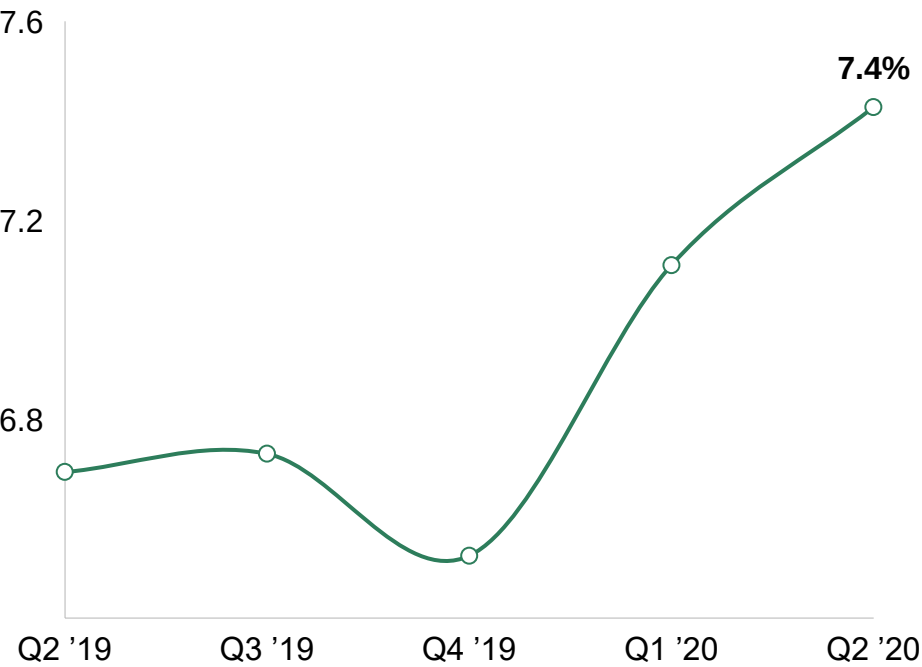


—○— NOPAT —○— EBITDA

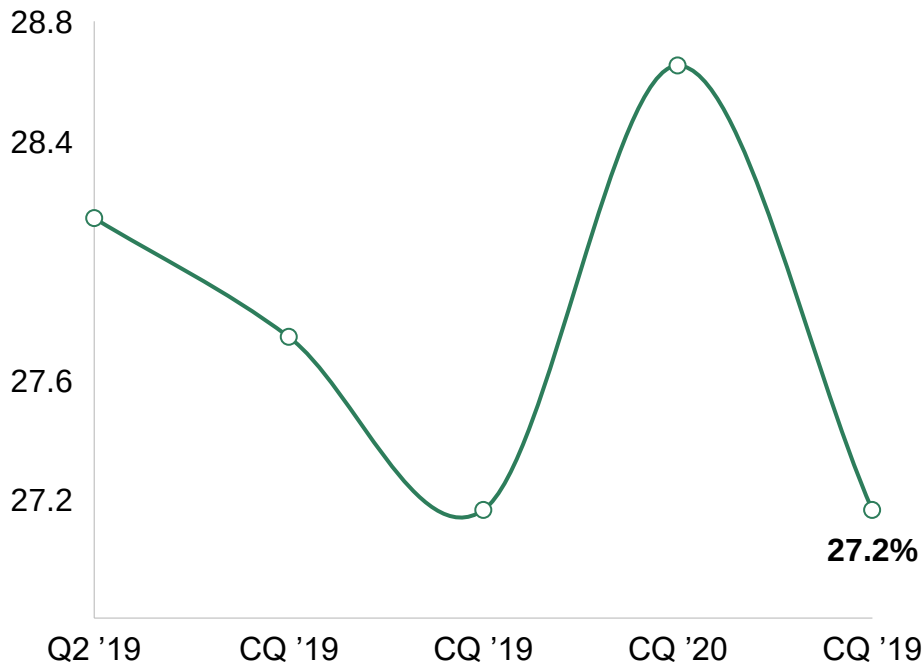


R&D ratio trended upward over H1'20, while SG&A ratio decreased significantly in Q2 after reaching a peak in the beginning of the year

Quarterly R&D over Sales
Q2'19 – Q2'20, %



Quarterly SG&A over Sales
Q2'19 – Q2'20, %

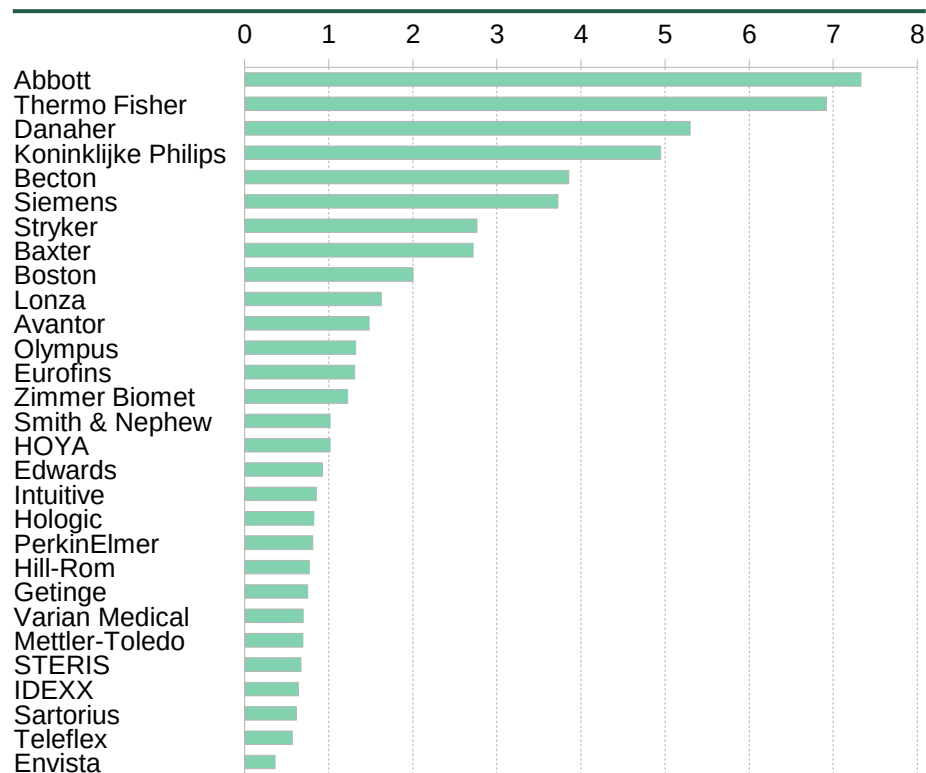


Source: Capital IQ, Annual & quarterly reports, Applied Value Analysis.

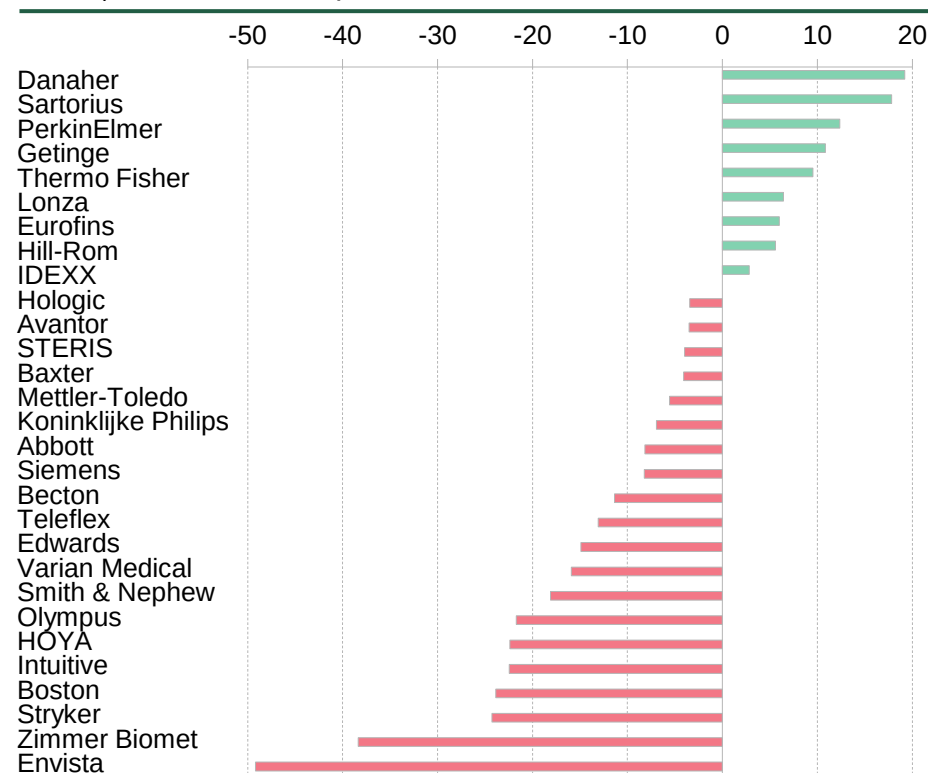


Most Medical Equipment & Devices firms witnessed a decline in sales YoY, however, Koninklijke Philips sales increased by 19 pp.

Revenue
Q2'20, BUSD



Revenue development
Delta (Q2'20 vs. Q2'19), %

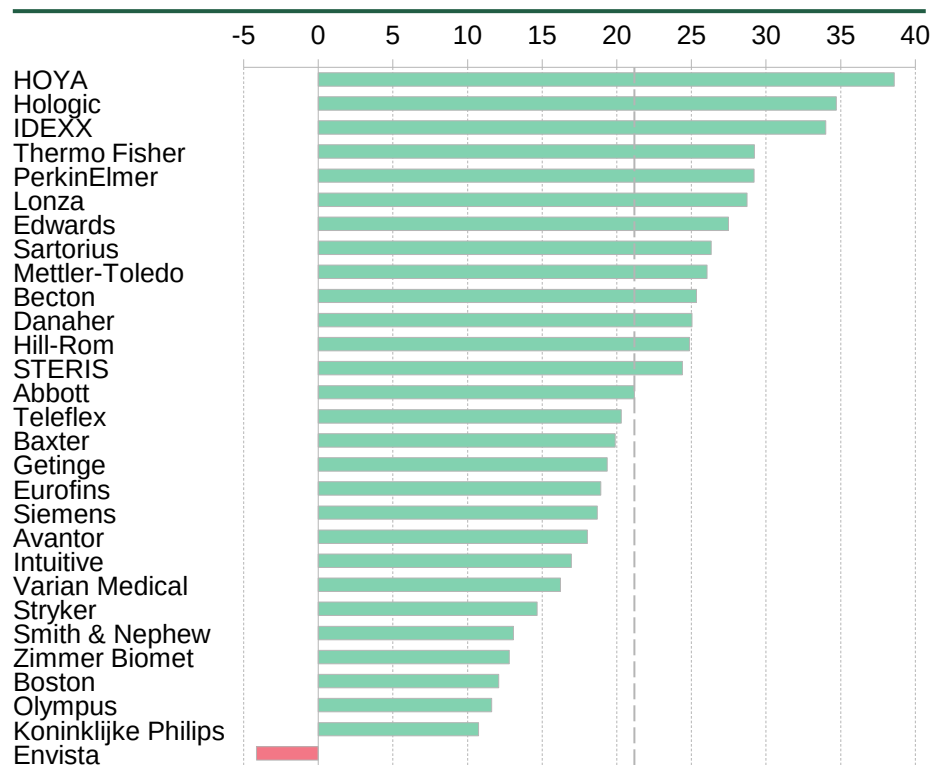


- › Danaher completed the acquisition of GE BioPharma business in Q1'20, driving sales in Q2
- › Envista sales decreased by 49% YoY due to lower core sales in NA and Western Europe market. Low dental patient volume led to weak demand of implant systems, orthodontic products, equipment and traditional consumables
- › Sartorius had outstanding performance on sales development as there was a strong demand across all product categories. Sartorius also acquired more orders due to additional demand from COVID-19 medicines and project businesses



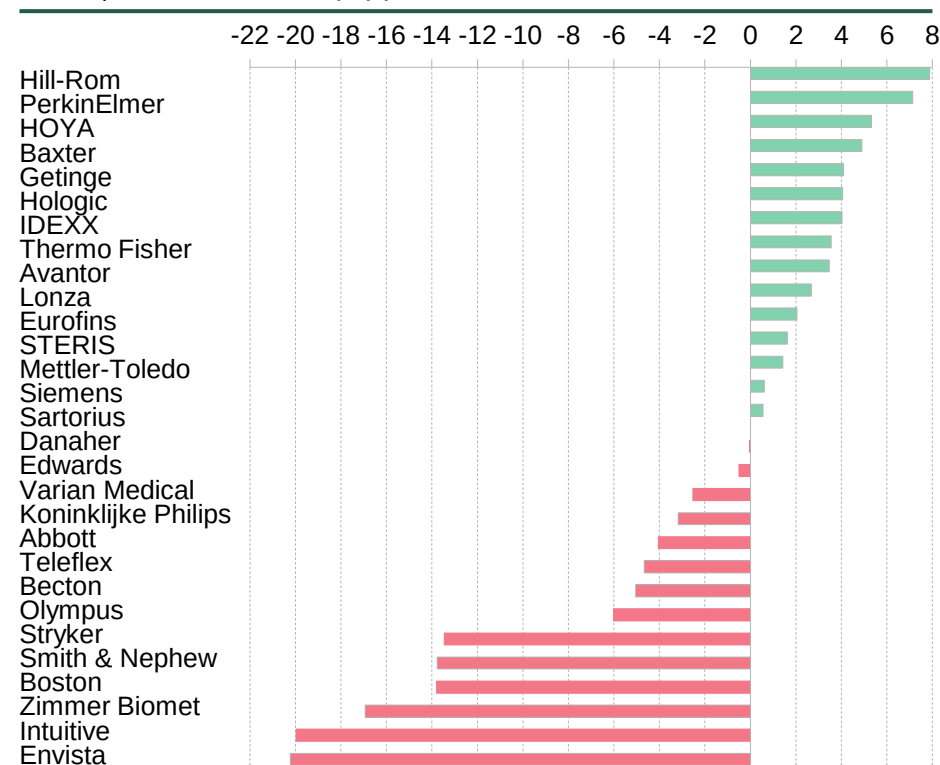
Industry average EBITDA% was ~21% in Q2'20, with Hillrom experiencing the largest growth in EBITDA rate while Envista profitability plummeted

EBITDA
Q2'20, %



Ø 21.2

EBITDA development
Delta (Q2'20 vs. Q2'19), pp.

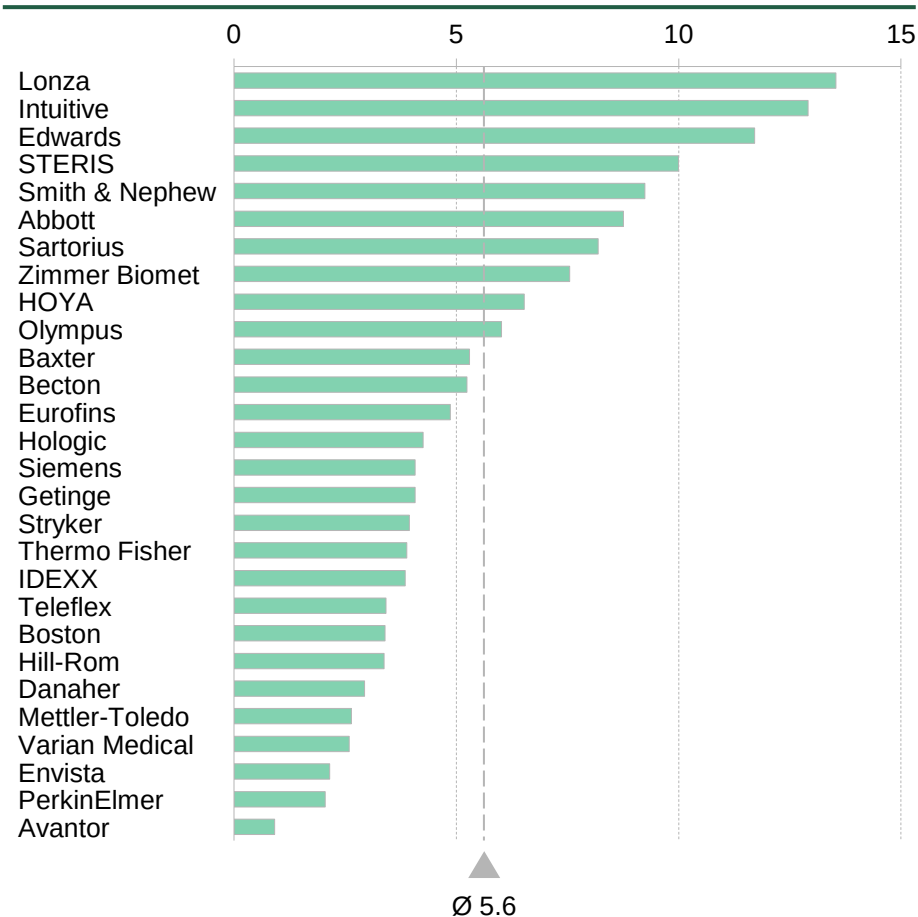


- › Hillrom's EBITDA ratio rose by 7.9 pp. YoY largely driven by positive product mix as well as manufacturing cost and sourcing efficiencies
- › HOYA had highest EBITDA margin among peers with growth of 5.32 pp., its sales declined in Q2 due to impact of COVID-19, but the impact was largely offset by the company's strategic temporary cost reductions

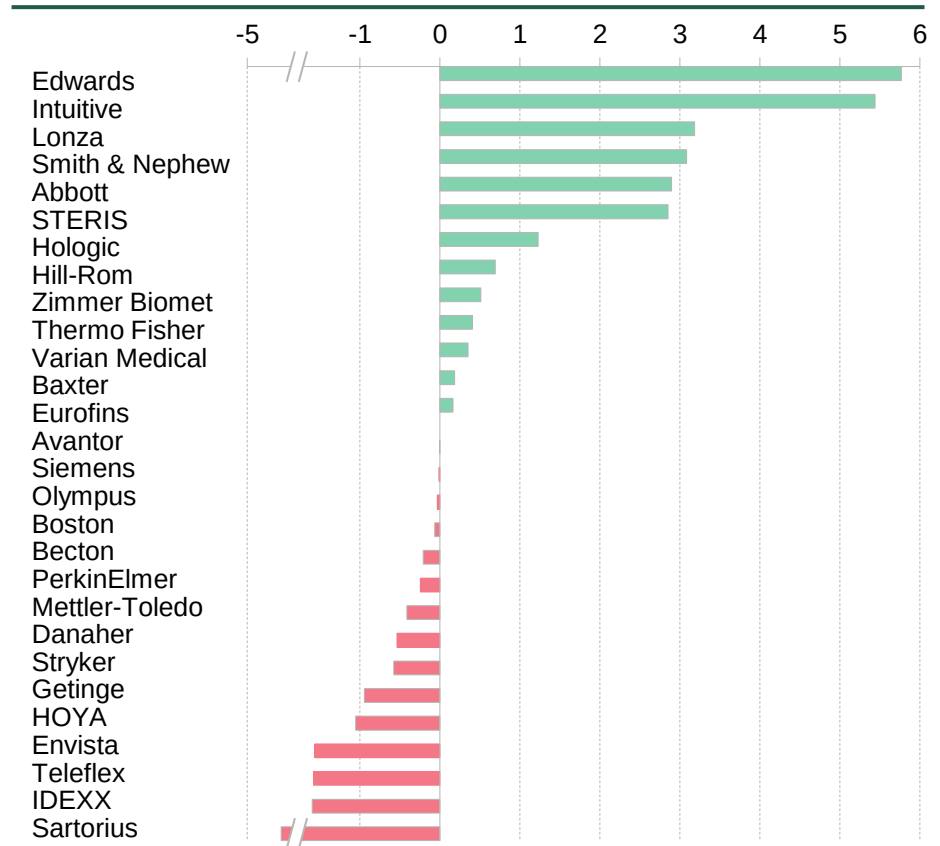


The average industry CAPEX over sales ratio was 5.2% in Q2'20, and Edwards had the highest growth of 5.7 pp.

CAPEX over sales
Q2'20, %



CAPEX over sales development
Delta (Q2'20 vs. Q2'19), pp.



Note: Koninklijke Philips was excluded from above charts, due to different accounting principal, Koninklijke Philips didn't reveal CAPEX

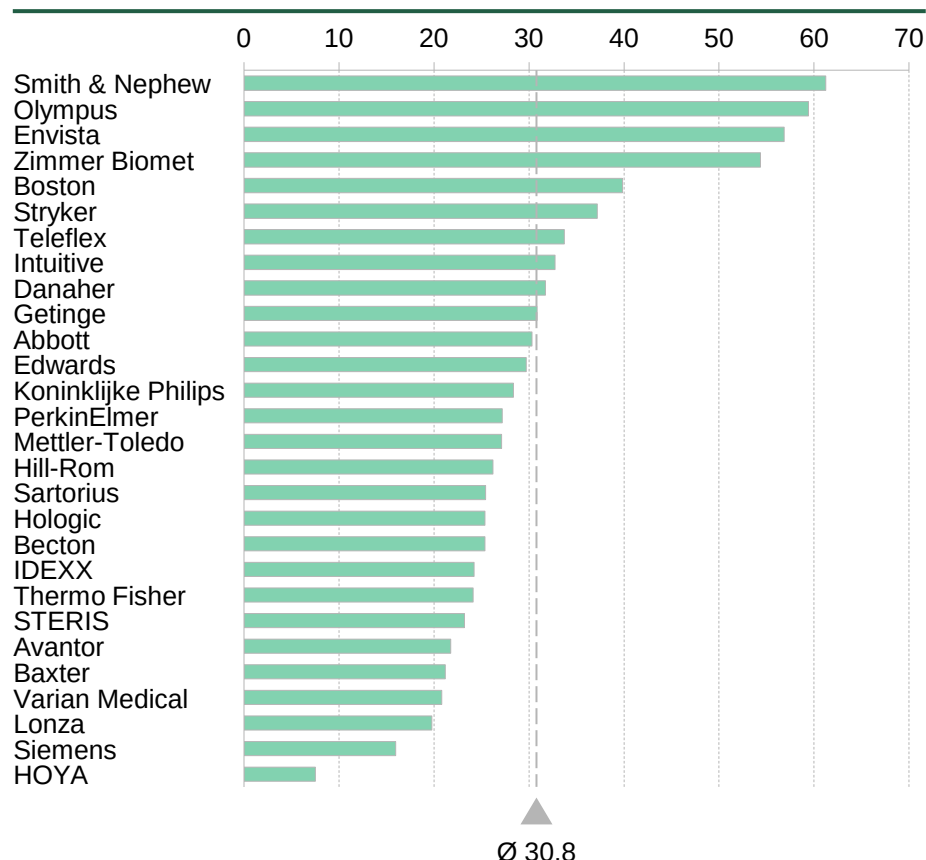
Source: Capital IQ, Annual & quarterly reports, Applied Value Analysis.



Industry average SG&A over sales was ~31% in Q2'20, Getinge outperformed industry peers with an improvement of - 4.4 pp. YoY

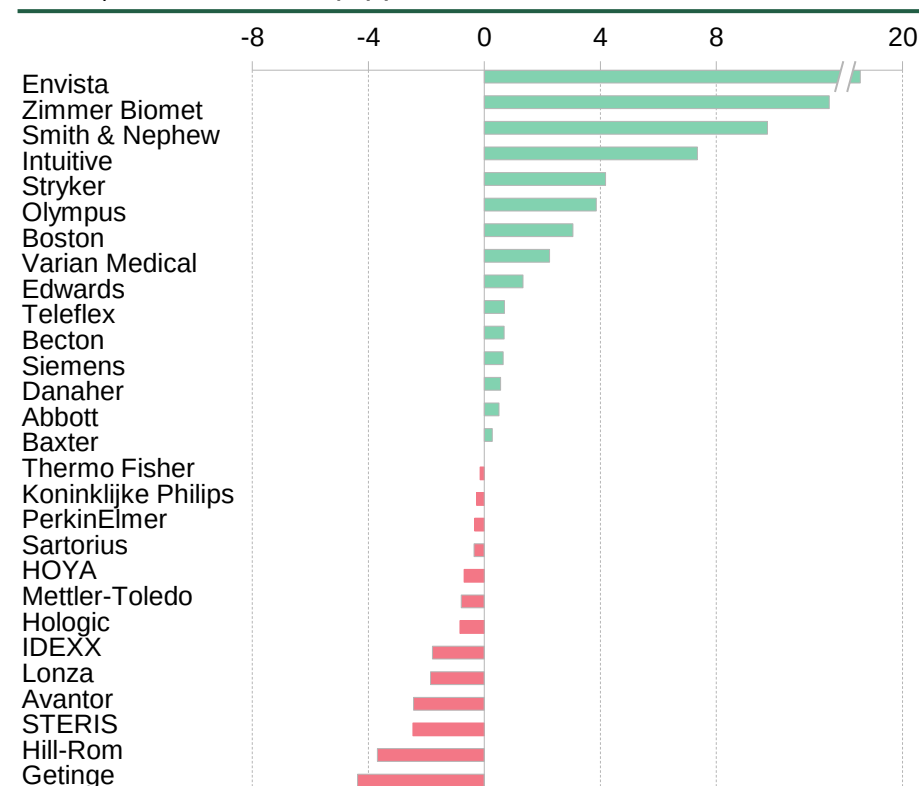
SG&A over sales

Q2'20, %



SG&A over sales development

Delta (Q2'20 vs. Q2'19), pp.



- As Getinge previously implemented measures to improve productivity, its SG&A ratio fell in Q2'20 by 4.4 pp. YoY. Furthermore, the decline was a result of COVID-19 because the firm conducted a new work method which lowered the travel cost
- In Q2'20 Envista's SG&A fell by 13% YoY; however, its SG&A margin grew by 18.5 pp. due to 51% YoY plummet of revenue

Note: Eurofins was excluded from the above charts, due to different accounting principal, Eurofins included SG&A expense as part of operating expenditure

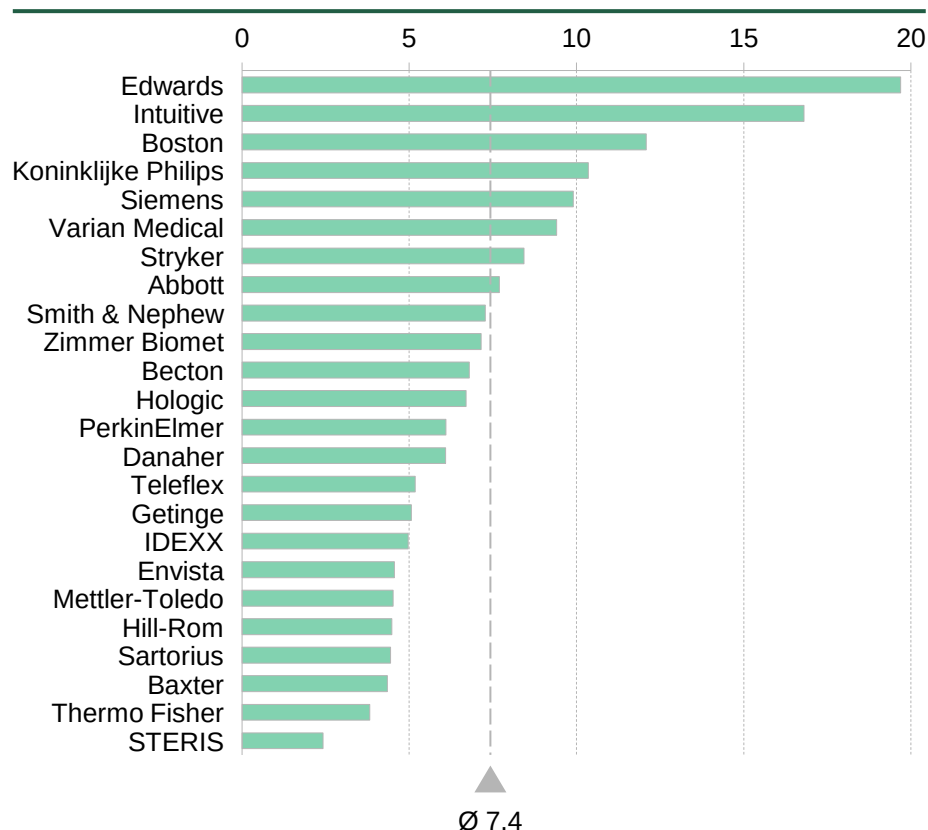
Source: Capital IQ, Annual & quarterly reports, Applied Value Analysis.



The average R&D over sales was 7.4%; most firms showed risings on R&D expense over sales, affected partially by revenue decreases

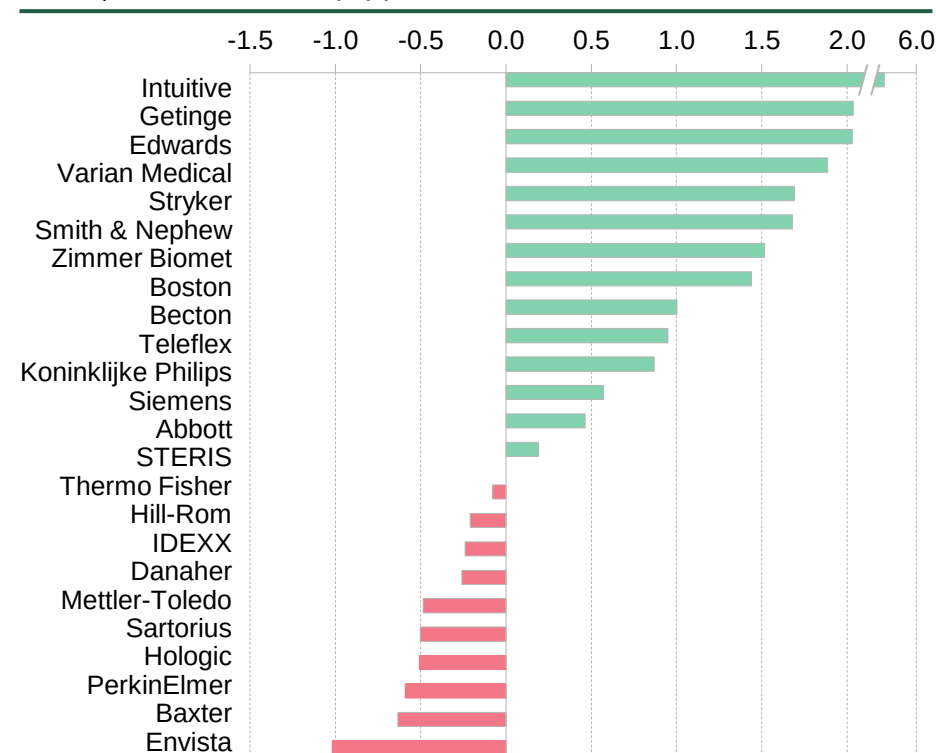
R&D expense over sales

Q2'20, %



R&D expense over sales development

Delta (Q2'20 vs. Q2'19), pp.



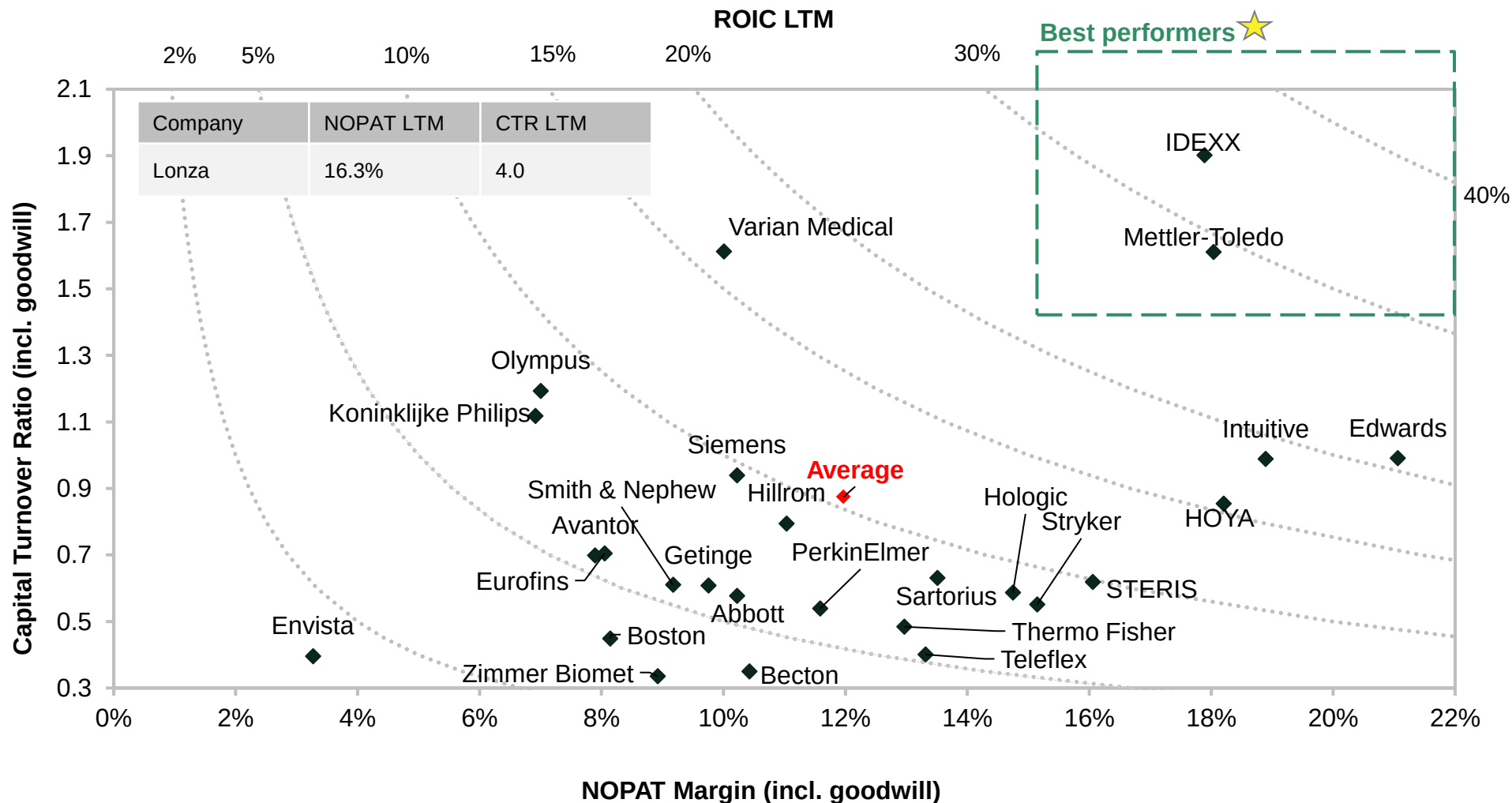
- › Edward had highest R&D over sales in Q2'20 with an increase of 2 pp. Y-o-Y, but the growth mainly arose from decreases in revenue; its R&D expenses in Q2'20 declined by 5.2% Y-o-Y due to low clinical spending and low clinical trial activity
- › Intuitive R&D expenses increase were primarily driven by higher personnel costs and more investments in product development including Ion and SP platform, advanced instrumentation and image, informatics, and future generations of robotics

Note: Eurofins, HOYA, Avantor, Lonza, and Olympus were excluded from the above charts, due to different accounting principal, they included R&D expense as part of operating expenditure

Source: Capital IQ, Annual & quarterly reports, Applied Value Analysis.



IDEXX and Mettler-Toledo were the top performers LTM, with 34% and 29% of ROIC respectively



Notes: Baxter did not release CTR LTM

ROIC = Return on Invested Capital (actual return that the company has generated after tax).

Source: Capital IQ, Annual & quarterly reports, Applied Value Analysis.



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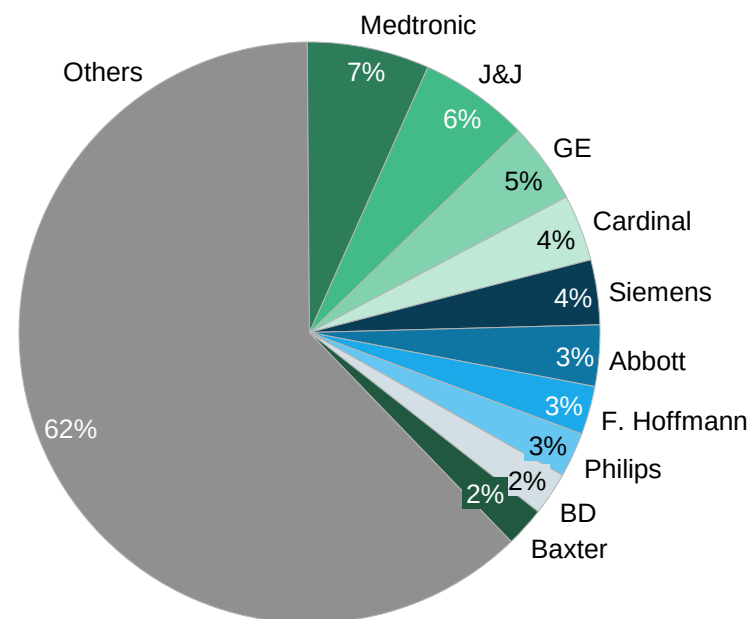


Recent events across the Medical Equipment & Devices segment and estimated market share

News and happenings

June-2020	Medtronic is temporarily modifying product indications so that health providers can use its extracorporeal membrane oxygenation (ECMO) technology to treat people with severe cases of COVID-19
June-2020	Abbott announced a government contract to supply millions of its laboratory-based IgG antibody tests to National Health Service (NHS) laboratories across the UK in the coming months
July-2020	Bruker announced the release of the NanoRacer high-speed atomic force microscopy system. This sets a new milestone in high-speed scanning capabilities to enable true real-time visualization of dynamic biological processes
Aug-2020	Siemens Healthineers is to buy cancer device and software specialist Varian Medical Systems for \$16.4 billion (£12.5bn). If the deal is approved by Varian's shareholders, Healthineers will acquire the leader in radiation therapy with a market share of over 50%
Aug-2020	Thermo Fisher introduced a new highly automated, real-time PCR solution designed to analyze up to 6,000 samples in a single day to meet increasing global demand for COVID-19 testing

Medical equipment & devices Key Competitor est. Share, %, 2019



38% of market share is occupied by top 10 players, with Medtronic and Johnson & Johnson at leading positions



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More than 180 vaccine candidates with different technologies are under development with subunit vaccine candidates outnumbering others

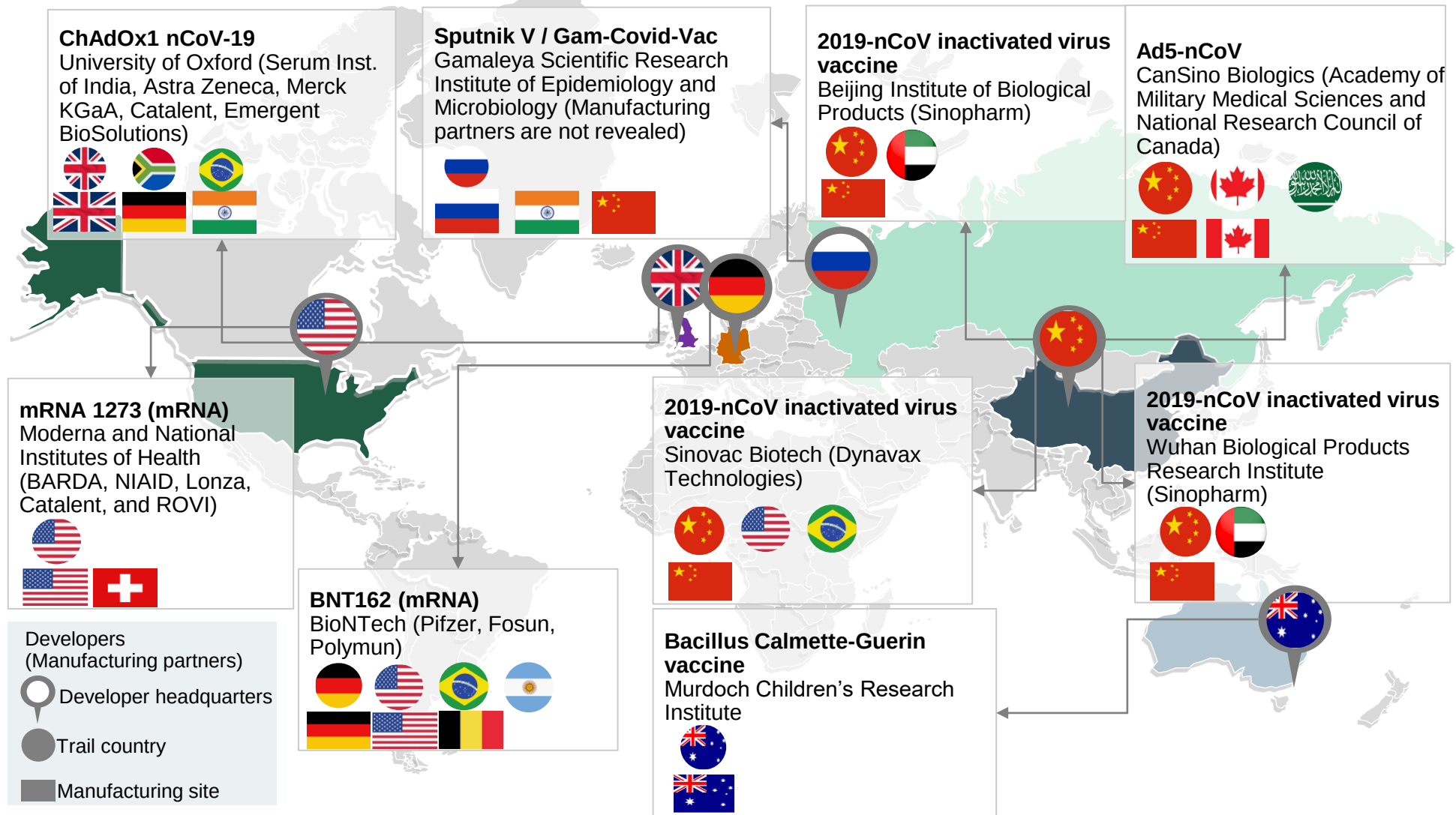
Technology ¹	Pros	Cons	Number of Candidates	Top Developers in development progress
Nucleic acid (DNA and RNA)	Can be quickly designed and manufactured	Have never been approved for use outside of medical research and will likely require two doses	43	
Viral-vectored	- Can be quickly designed - High efficiency gene transduction	People can develop immunity to the viral vector	42	
Protein subunit	- Applicable to people with weakened immune systems - Long-lived immunity	Multiple doses needed	79	
Weakened and inactivated virus	Safe and stable	Take longer to manufacture	18	

Note: 1. Technology here is not including others

Source: FasterCures



With collaboration between developers and manufacturers across the globe, 9 vaccine candidates have entered phase III trial¹



Note: 1. Vaccines are being tested in thousands of people to check their effectiveness and safety

Source: World Health Organization, National Institute of Allergy and Infectious Diseases, National Center for Biotechnology Information



Globally announced COVID-19 vaccine production capacity is ~ 9 bn doses, and many countries are signing with developers to secure vaccine supplies

Top developers in production capacity	Announced capacity by end of 2021, bn doses	Recent announced deals
	 2.7	› Signed with European Commission to provide 400 million doses › Set to start making 400 million doses for LATAM › US gov. contracted 300 million doses
	 1.3	› Contract with US gov. to conduct large-scale manufacturing and fill-finish of 100M doses, the deal worth 1.95 billion › Inked deal to supply 120 million doses to Japan › Had an agreement with the EU for 400 million doses
	 1.0	› US gov. inked deal to purchase 100 million doses for \$1.5 billion
	 1.0	› The company is partnering with IAVI and has received \$38 million in support from the US gov.
	 1.0	› Entered into an agreement with the US gov. for domestic manufacturing and delivery of 100 million doses › EU agreed to a framework for up to 400 million more
	 1.0	› Contracted with US gov. to manufacture and delivery vaccines worth \$1.6 billion
	 1.0	› \$2.1 bn vaccine development contract with US gov. to provide 100 million doses › Agreement with European Commission to provide up to 300 million doses



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About Applied Value



Applied Value is a management consulting & investment firm founded on the principles of lean growth and entrepreneurship

1997 Background as an internal consultancy and change agent within the Swedish **Stenbeck Group**...

2020 ...today, a hands-on consultancy supporting clients **across industries**



Industries of Expertise

- Pharma & MedTech
- Telecom & Media
- Chemicals & Process
- Industrials & Engineering
- Consumer Goods
- Automotive



Applied Value Group Overview



Investments



Management Consulting



Social Responsibility

Selected portfolio companies



ROI driven



Fact-based



Practical over theoretical



Hands-On

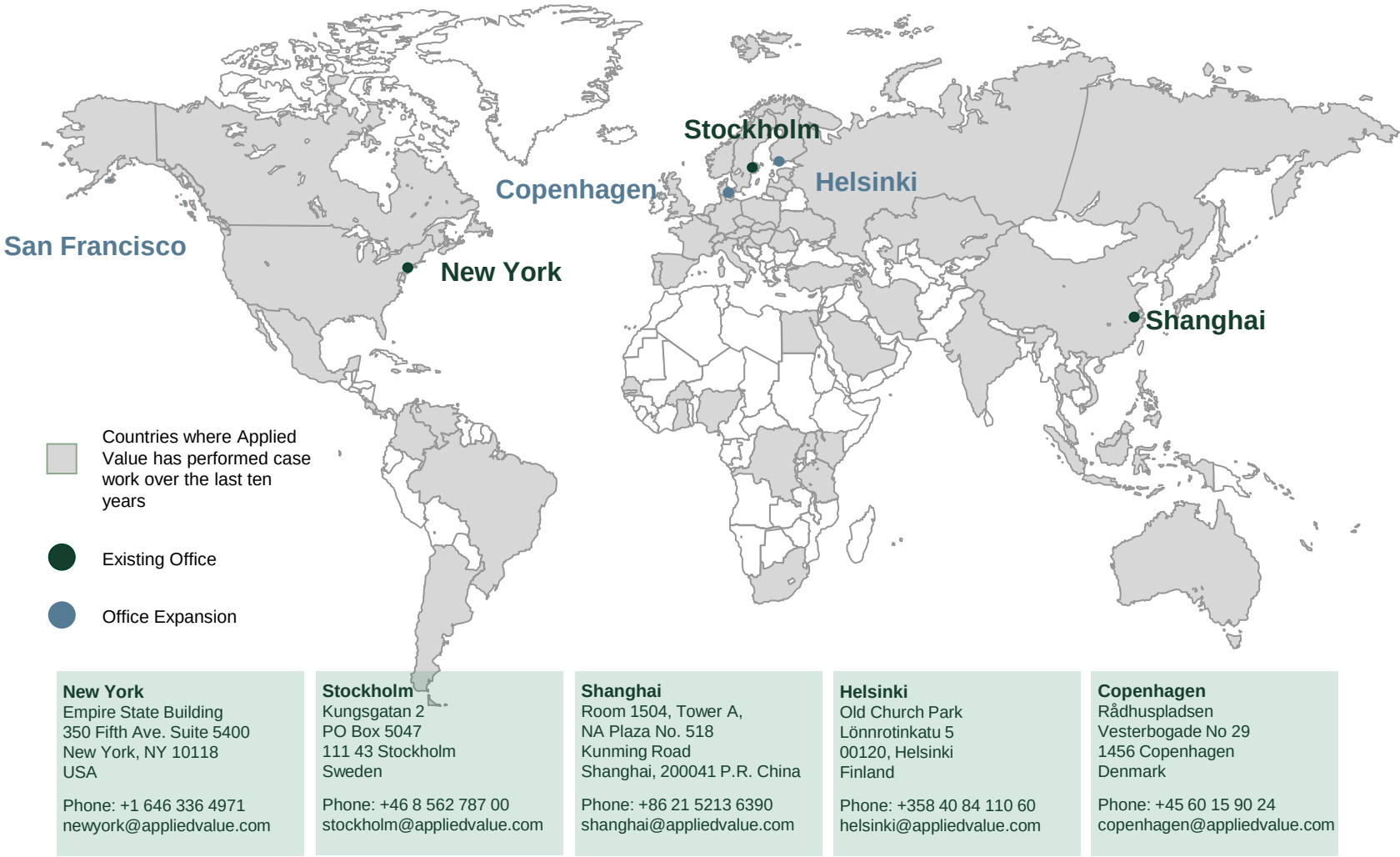


Global perspectives



Applied Value challenges and supports repeat global clients across industries from three offices – currently expanding in the Nordics and US

Applied Value Offices and Footprint



Applied Value has a strong track record in successfully transforming its clients in the Pharma & MedTech industry

Since our inception in 1997, Applied Value has continuously advised clients within the Pharma & MedTech industry...



Improving the business performance of medical equipment manufacturers, pharmaceuticals, biotechnology companies and healthcare providers



Successful private equity investments and divestments in the Medtech and Biotech sector



Providing innovative start-ups with seed money and BoD support to facilitate early stage growth

We develop trusted relationships with executives who have the ambition to radically change their business. We are known for creating immediate impact and driving change for our clients.

Example Client	Examples of Recent Assignments
CEO of leading medical equipment & devices OEM	› Strategic advisor and program manager of a successful turnaround program › Turned record losses into profits by refocusing the business aggressive cost reductions
CPO of Global Pharma & Medical Tech OEM	› Improved Sourcing methods / tools and accelerated Sourcing savings across multiple categories, including PCBAs, injection molded plastics, packaging and metal parts
CFO and COO of Global Technology OEM	› Strategic advisor to C-level management and PM of a corporate restructuring program › Reduced OPEX by 50% in three quarters and pared massive losses
CEO of Biotech Diagnostics Company	› Strategic advisor to the CEO › Implemented multiple projects to improve cost efficiency and Time-to-Market
CTO and CPO of Global Pharma Company	› Implemented multiple projects to improve IT efficiency (applications, outsourcing) › Advised senior management on network sharing deals and organizational design / efficiency
BU Head of Global Manufacturing Company	› Led an Operational Excellence program focusing on IT, organizational efficiency and R&D
CPO for Fortune 500 Medical Device co.	› Conducted Transportation & Logistics Optimization exercises across four key categories





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