



Applied Value

Q1 2021

Applied Value

Kungsgatan 2 111 43 Stockholm, Sweden Phone: +46(0)8 562 787 00

www.appliedvaluegroup.com

Applied Value Telecommunications Practice

Telecommunication has been a core practice area for Applied Value since our inception in 1997. Over the last 20+ years, we have supported a wide range of clients across the telecommunications value chain and across continents.

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

About this report

This report tracks the financial performance of major players in the telecommunications industry ranging from operators to infrastructure OEMs and mobile device makers.

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

Principal Contacts

Johan Lindqvist
Global Telecom Practice Leader

Applied Value Phone: +46 704 26 92 52 johan.lindqvist@appliedvalue.com



Applied Value's telecom report tracks the financial performance of major players in the industry

Operators STC الاتصالات السعودية **BCE** ooredoo SK telecom pro **%**Imus elis airtel BT TELE2 swisscom **Telefónica** TOC ROGERS MILLICOM tigo TURKCELL **Telia Company** AIS VEON TELUS verizon\(

Infrastructure OEMs



















Device OEMs



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- 1. Operators
- 2. Infrastructure OEMs
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About Applied Value



Executive summary

Key takeaways per segment

Operators

- 1. In Q1'21, revenue of the operator segment weakened by 6% QoQ due to seasonality but improved by 9% compared with Q1'20
- 2. EBITDA and NOPAT margin improved 2.6 pp. and 1.1 pp. respectively compared to the previous quarter

Infrastructure OEMs

- 1. Overall, the telecom equipment market advanced 7% YoY during 2020. Both mobile Core Networks and RAN achieved faster growth than forecasted
- 2. As global network upgrade accelerates, all infrastructure vendors achieved double-digit YoY revenue growth except for Huawei

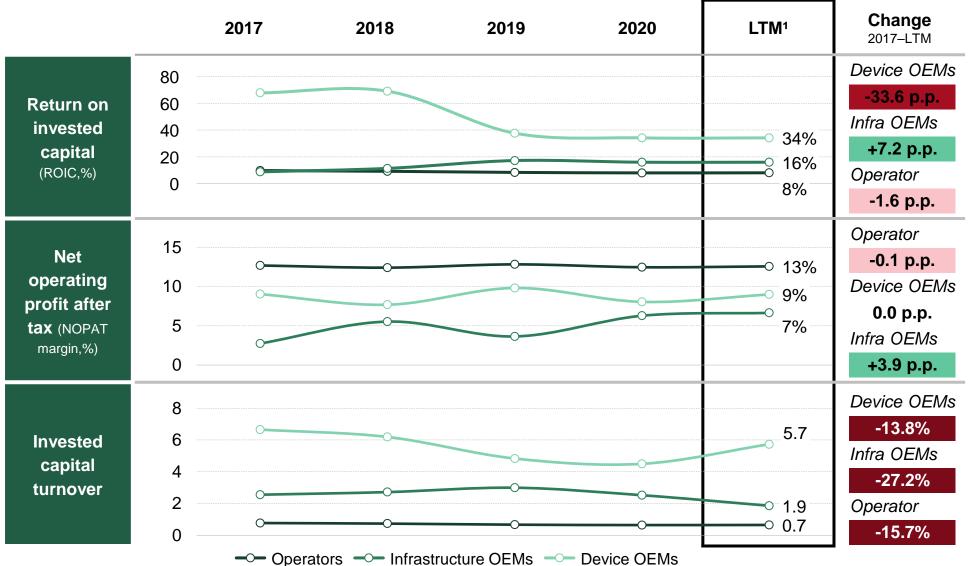
Device OEMs

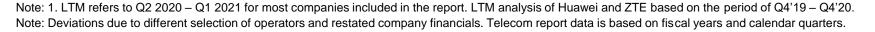
- 1. Global smartphone market posted record first-quarter revenues. Shipments in regions including Europe, China and India were stronger than expected
- 2. Economic recovery continues to stimulate demand of tablets and wearables, YoY shipment grew by 55.6% and 27.2% respectively





Financial overview (1/2): Yearly performance







Financial overview (2/2): Quarterly performance

	Segment	Q1 '21	Q4 '20	Q3 '20	Q2 '20
Sales	Operators	9.4%	4.5%	2.8%	-2.0%
Y-o-Y	Infrastructure OEMs ¹	-1.0%	16.4%	10.1%	12.6%
(% change)	Device OEMs ²	34.7%	13.9%	7.9%	5.6%
Net operating profit after tax (NOPAT)	Operators	0.3 pp.	0.6 pp.	0.3 pp.	-0.1 pp.
Y-o-Y	Infrastructure OEMs ¹	1.5 pp.	4.0 pp.	0.0 pp.	0.6 pp.
(p.p. change)	Device OEMs ²	3.1 pp.	0.8 pp.	0.2 pp.	0.2 pp.
EBITDA	Operators	0.0 pp.	2.8 pp.	2.6 pp.	1.8 pp.
Y-o-Y	Infrastructure OEMs ¹	2.0 pp.	5.5 pp.	-0.8 pp.	0.1 pp.
(p.p. change)	Device OEMs ²	4.0 pp.	1.0 pp.	0.3 pp.	0.6 pp.

Notes: Telecom report data is based on fiscal years and calendar quarters. Source: Capital IQ, Annual & quarterly reports, Applied Value Analysis.



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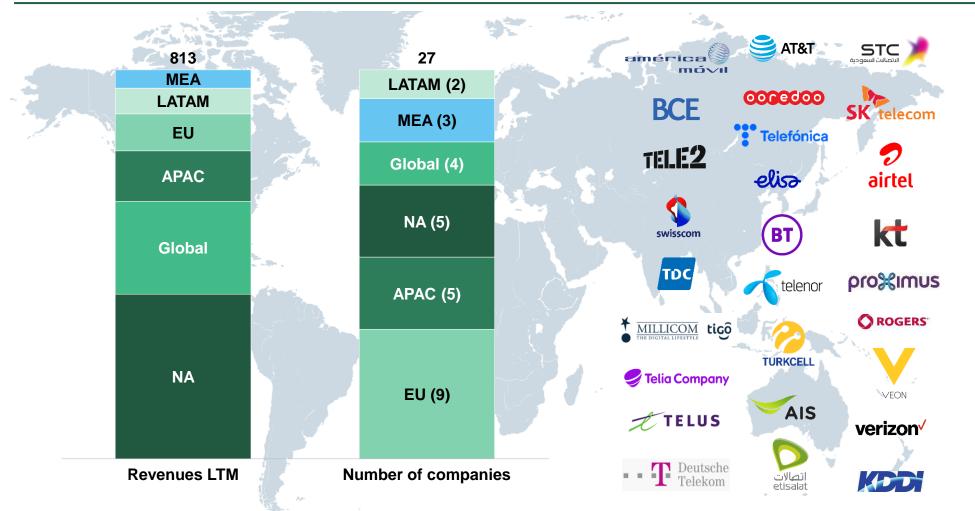
About Applied Value



The Q1 '21 report covers 27 of the largest operators globally, accounting for 813 billion USD in revenues

Report overview

Revenue in BUSD, and company breakdown



Note: The included companies differ from previous quarter. Global operator refers to those with transregional business establishments.

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



Key takeaways from the operator segment

Key takeaways

Creating Shareholder Value

- 1. ROIC of the operator segment averaged at 8.1%, STC leads the segment with a ROIC of 17%
- 2. Tele2 achieved the largest positive ROIC development of 1.75 pp. in LTM compared with LTM-1, driven by a NOPAT margin expansion of 5 pp.

Revenue Performance

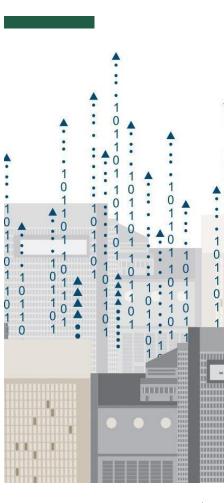
- 1. Compared with Q1'20, revenue of the operator segment improved by 9%
- 2. APCA, EU and LATAM operators experienced -3.7%, -2.9% and -3.0% of YoY revenue downfall in LTM respectively

Margin Performance

- 1. EBITDA margin averaged at 37% in Q1'21, NOPAT margin averaged at 13%
- 2. Bharti Airtel experienced the largest profitability improvement due to subscriber and data consumption growth

Capital Expenditure

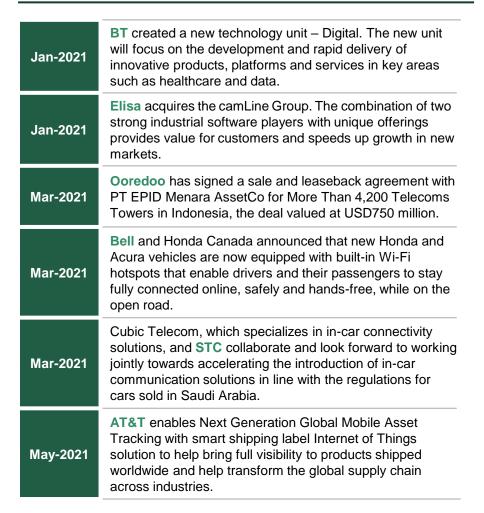
- 1. CAPEX to sales ratio has been sustained around 15% for the past five years
- 2. As initial deployment of commercial 5G concludes, operators in APAC are actively reducing CAPEX spending



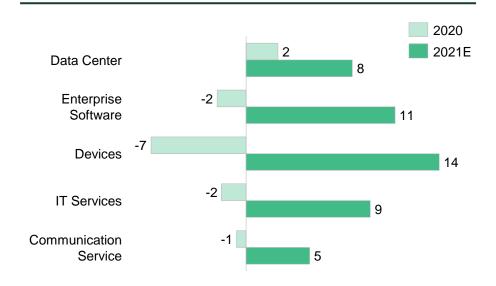


Events across the Operator sector from the last 3 months

News and happenings for operators



Worldwide IT Spending Growth



Worldwide IT spending is projected to total \$4.1 trillion in 2021 - an increase of 8.4% from 2020.

From an industry perspective, banking and securities and insurance spending will closely resemble pre-pandemic levels as early as 2021, but retail and transportation won't see the same recovery until closer to 2023.

Regionally, Latin America is expected to recover in 2024, while Greater China has already surpassed 2019 IT spending levels. North America and Western Europe are both expected to recover in late 2021.



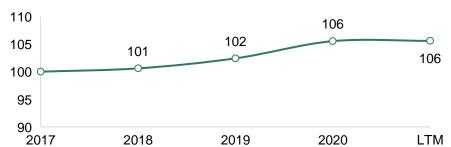
Source: Press & News, Credit Suisse, Applied Value Analysis.

Q1 '21

In Q1'21, revenue of the operator segment weakened by 6% QoQ but improved by 9% compared with Q1'20

Indexed Yearly revenues

2017 - LTM (index 2017=100)



1

Q1 '20

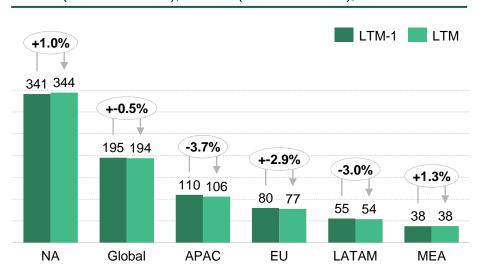


Q3 '20

Q4 '20

Yearly revenues by region

LTM-1 (Q2'19 – Q1'20), to LTM (Q2'20 – Q1'21), BUSD



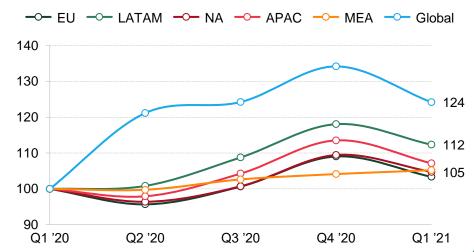
Indexed Quarterly revenues by region

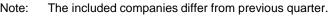
Q2 '20

Q1'20 to Q1'21 (index Q1'20=100)

Indexed Quarterly revenues

Q1'20 - Q1'21 (index Q1'20=100)



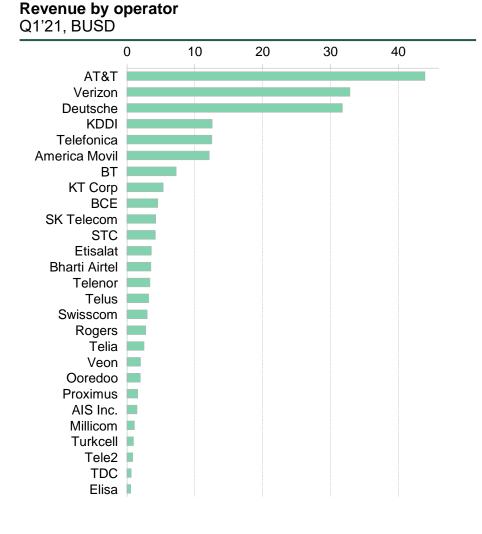


Source: Capital IQ, Annual & quarterly reports, Applied Value Analysis.

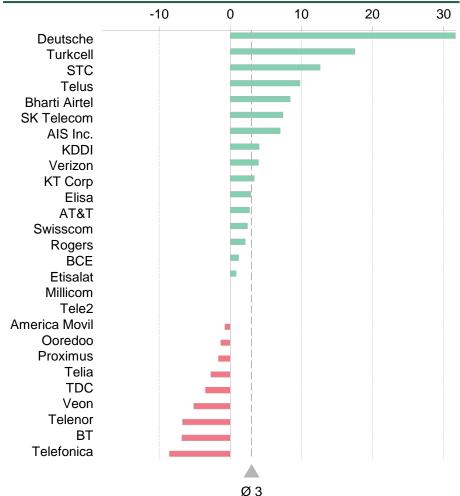


Turkcell added 705k subscribers to the network in Q1'21, and per user mobile data consumption increased 29% YoY as 4G/5G proliferated





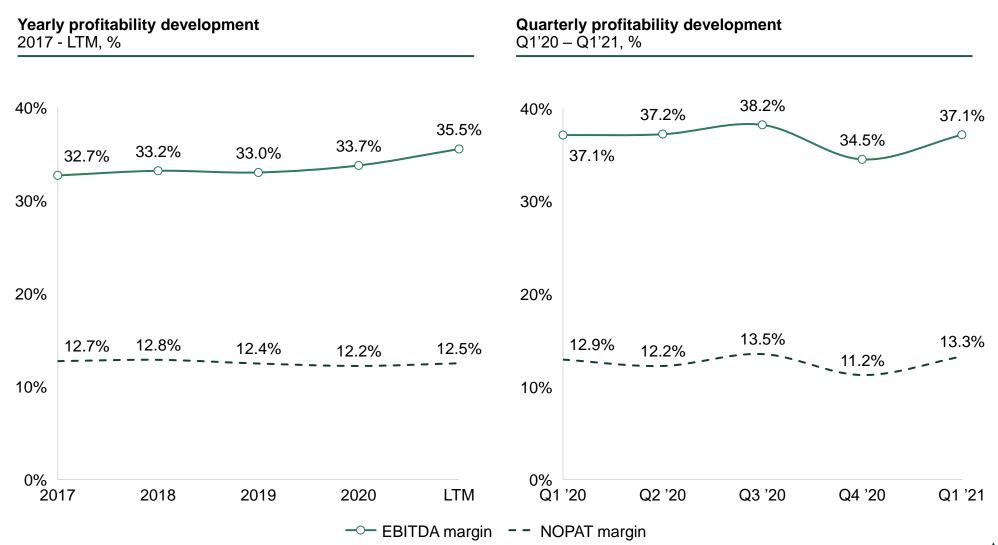
Revenue development by operator Delta (Q1'20 vs. Q1'21), %





Note: The included companies differ from previous quarter. Revenue development of Deutsche Telekom is skewed by the acquisition of Sprint. Source: Capital IQ, Annual & quarterly reports, Applied Value Analysis.

EBITDA and NOPAT margin improved 2.6 pp. and 1.1 pp. respectively compared to the previous quarter



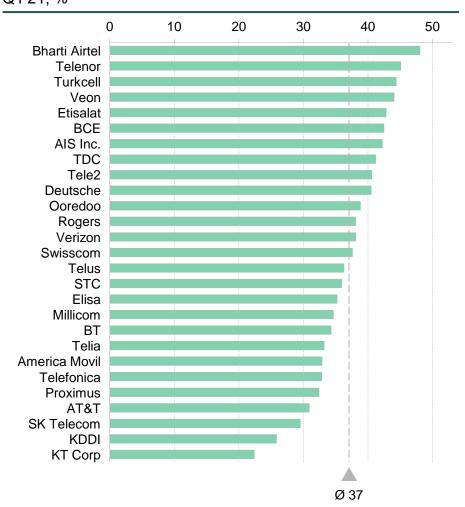
Note: The included companies differ from previous quarter.

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

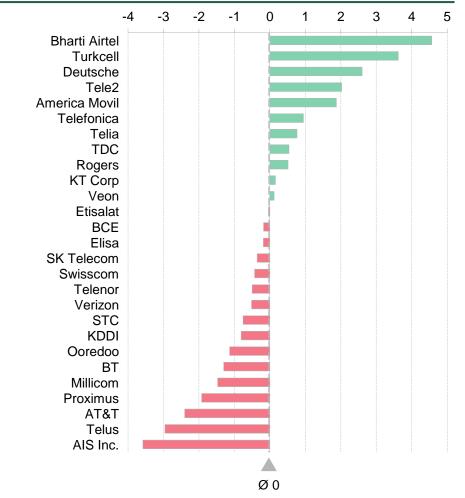


EBITDA performance diverged among operators; Bharti Airtel leads the segment with 4.5 pp. YoY EBITDA margin improvement

EBITDA margin by operator Q1'21, %



EBITDA margin development by operator Delta (Q1'20 vs. Q1'21), p.p.

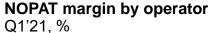


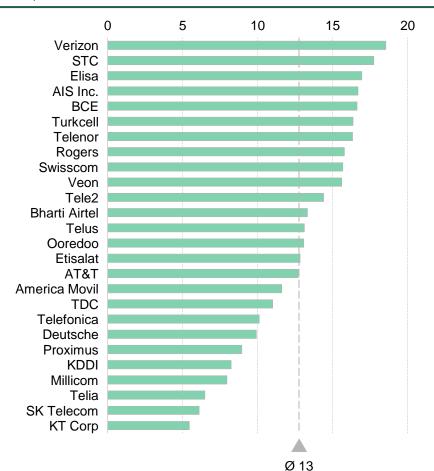
Note: The included companies differ from previous quarter.

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

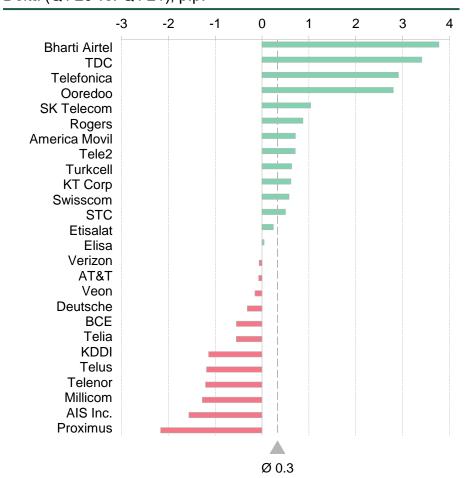


As markets recover, Telefonica has achieved three consecutive quarters of revenue and profit margin growth with digitizing sales and operations





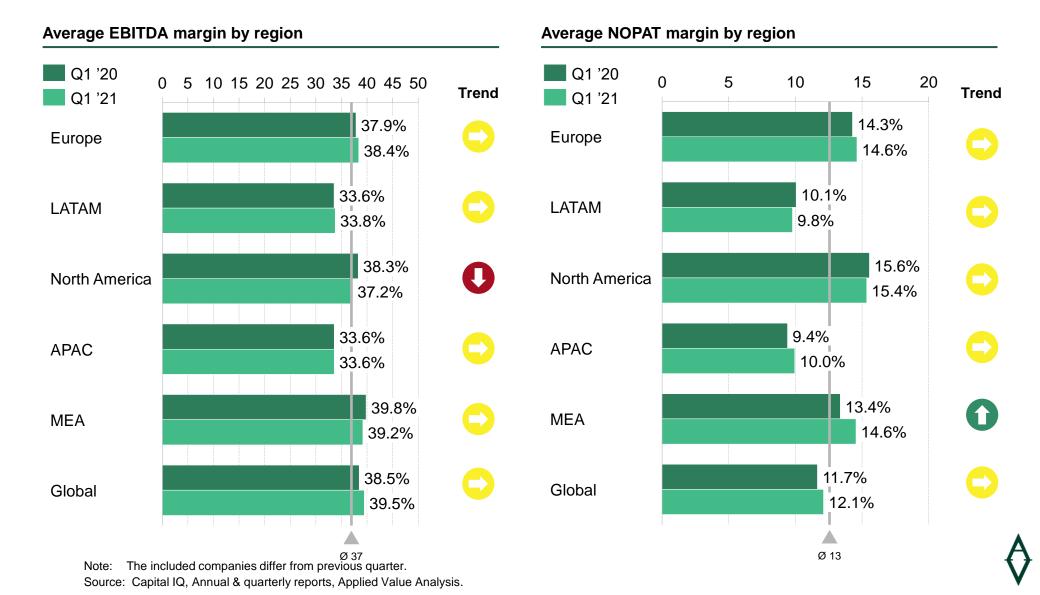
NOPAT margin development by operator Delta (Q1'20 vs. Q1'21), p.p.



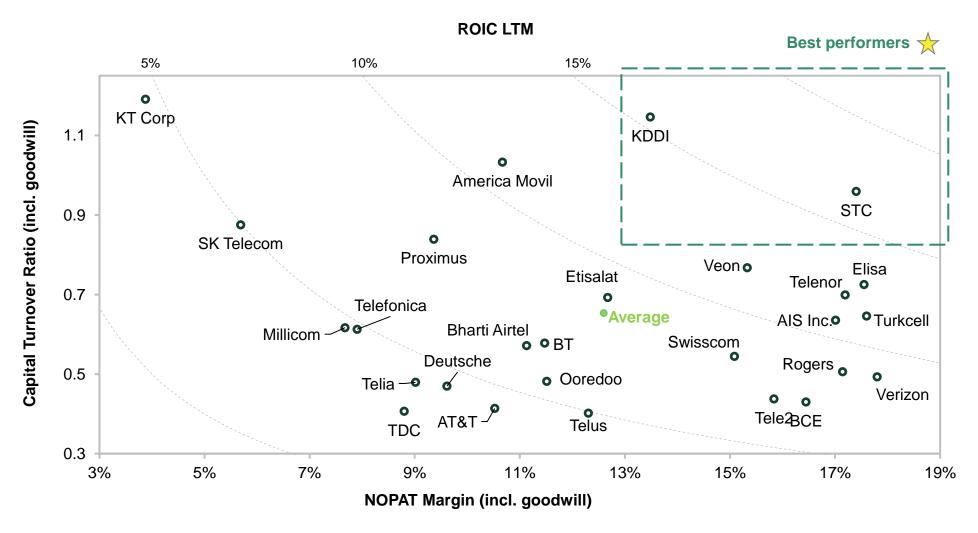


Note: The included companies differ from previous quarter. British Telecom is excluded from analysis due to insufficient data. Source: Capital IQ, Annual & quarterly reports, Applied Value Analysis.

Profitability performance flattened YoY across the board; APAC and LATAM operators lag in NOPAT margins in comparison to the others



ROIC of the operator segment averaged at 8.1%; STC outperformed its peers with a ROIC of 17%, followed by KDDI at 15%

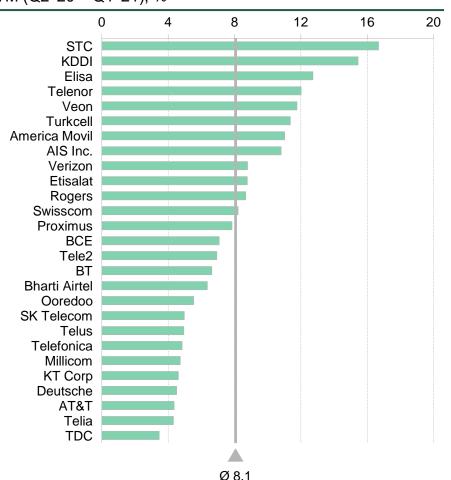


Notes: ROIC = Return on Invested Capital (actual return that the company has generated after tax). The included companies differ from previous quarter. Source: Capital IQ, Annual & quarterly reports, Applied Value Analysis.



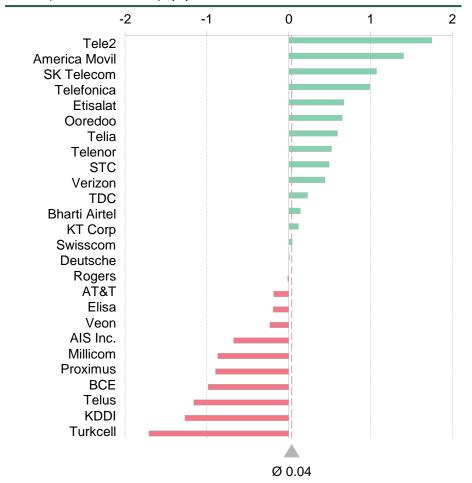
ROIC development of operators is constricted within 2 pp.; Tele2's ROIC improved by 1.75 pp. due to a NOPAT margin growth of 5 pp.





ROIC development by operator

Delta (LTM vs. LTM-1), p.p.

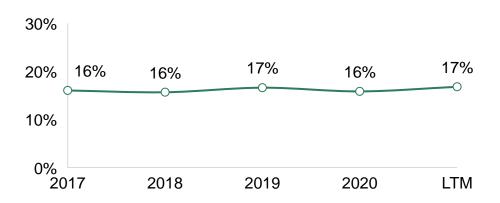




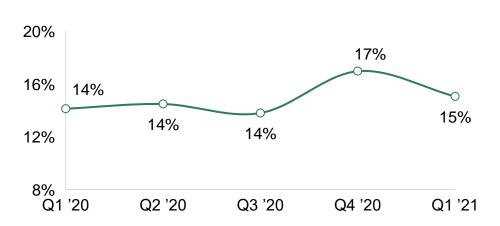
Note: The included companies differ from previous quarter. British Telecom is excluded from ROIC development analysis due to insufficient data. Source: Capital IQ, Annual & quarterly reports, Applied Value Analysis.

CAPEX ratio has been stable across the past five years; North American operators have undergone the largest CAPEX reduction compared to 2017

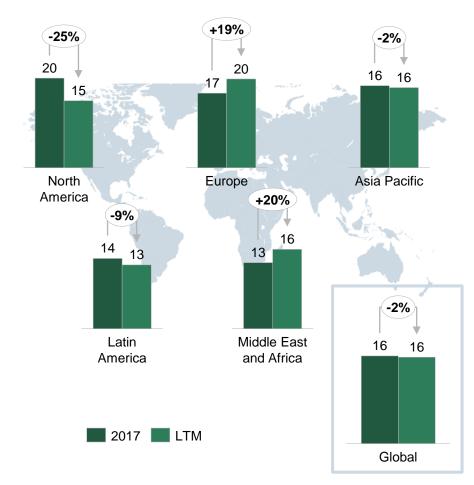
Yearly CAPEX over sales development 2017 - LTM, %

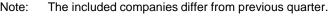


Quarterly CAPEX over sales development Q1'20 – Q1'21, %



CAPEX over sales by region % of sales. 2017 and LTM



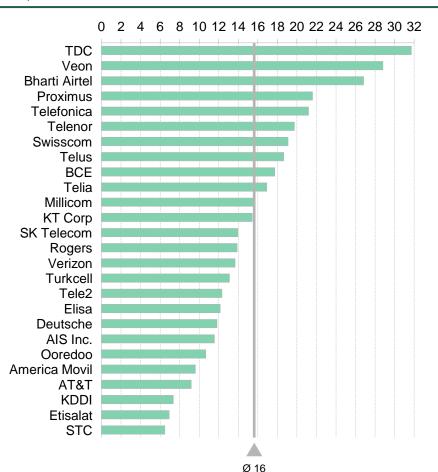


Source: Capital IQ, Annual & quarterly reports, Applied Value Analysis.

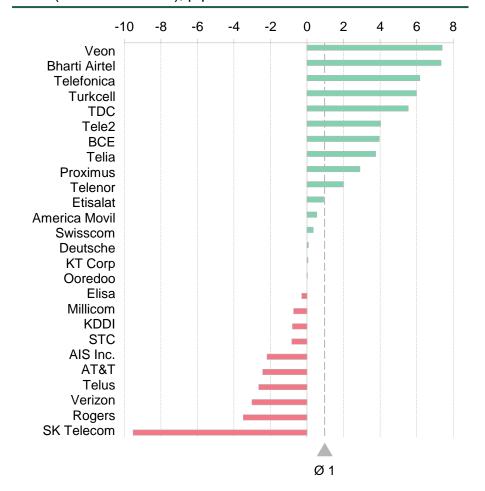


SK Telecom reduced CAPEX by ~2 billion USD in 2020 and continues to cut back on CAPEX as initial phase of 5G network expansion concludes

CAPEX over sales by operator Q1'21, %



CAPEX over sales development by operator Delta (Q1'20 vs. Q1'21), p.p.





Note: The included companies differ from previous quarter. British Telecom excluded from analysis due to missing data. Source: Capital IQ, Annual & quarterly reports, Applied Value Analysis.

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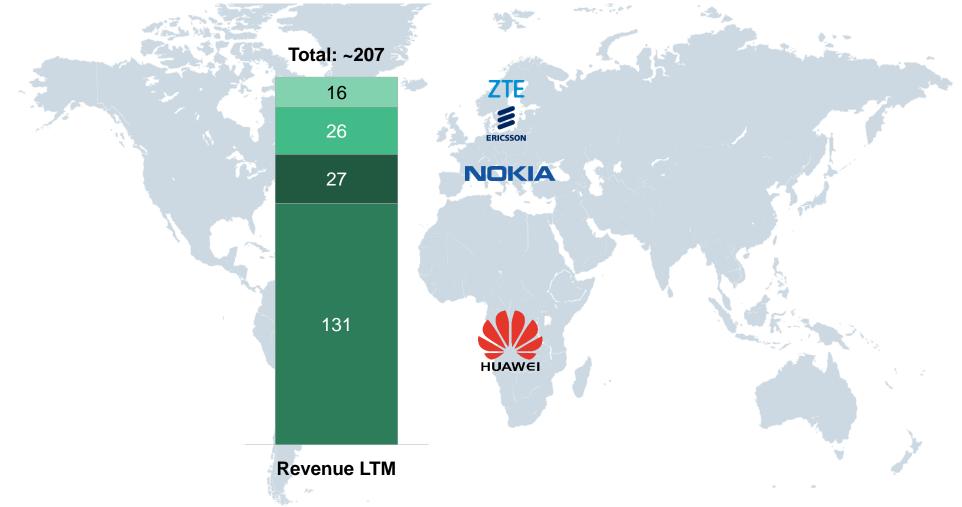
3. Device OEMs

About Applied Value



The Q1 2021 report includes the four major infrastructure players

Report overview Revenue in BUSD





Note: Revenue based on group revenue. Huawei LTM revenue data based on market projections. Source: Capital IQ, Annual & quarterly reports, Applied Value Analysis.

Key takeaways from the Infrastructure OEM segment

Key takeaways

Creating Shareholder Value

- 1. Ericsson's ROIC increased by 33.3 pp. over the past five year, leading the segment. Nokia followed with 6.1 pp. improvement
- 2. Huawei and ZTE's ROIC decreased 14.6 pp. and 7.4 pp respectively over the past five years due mostly to reduction in CTR

Revenue Performance

- 1. Ericsson's sales grew by double digits in all regions except for MEA
- 2. ZTE's revenue has been growing steadily due to strong sales in Mainland China and other Asian countries

Margin Performance

- 1. Nokia's NOPAT margin advanced by 3.9 pp. in LTM as COGS ratio and R&D ratio both witness reduction
- 2. ZTE's COGS ratio rose to ~70%, lagging behind other players in the segment

Capital Efficiency

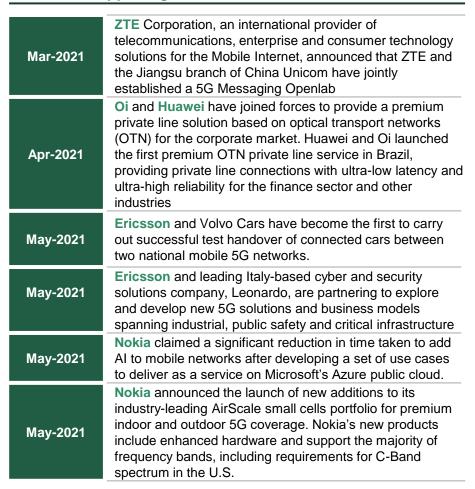
- 1. Since 2019, CTR of Huawei has fallen from 2.8 to 1.9, while ZTE fell from 3.3 to 1.7 within the same time frame
- 2. Ericsson continues to lead the segment with a CTR of 2.5



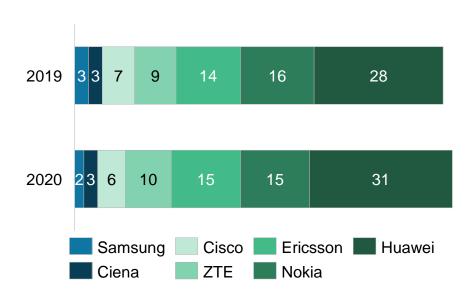


Events across the Infrastructure OEMs sector from the last 3 months

News and happenings for infrastructure OEMs



Telcom Equipment Market Share by Revenue %



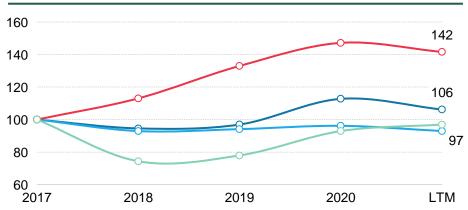
Dell'Oro Group estimated the overall telecom equipment market advanced 7% YoY during 2020. Mobile Core Networks and RAN both achieved faster growth than expected.



As global network upgrade accelerates, all infrastructure vendors achieved double-digit YoY revenue growth except for Huawei

Indexed Yearly Group Revenues

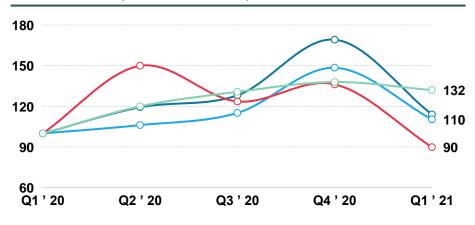
2017 to LTM (index 2017=100)



- Nokia reported YoY net sales increase of 3%, driven by strong growth in Network Infrastructure and Mobile Networks
- Ericsson's sales grew by double digits except for Middle East and Africa sales. A 78% YoY revenue increase was recorded for Northeast Asia as Network and Digital Services sales surged in markets outside of Mainland China
- In response to unfavorable business environment, Huawei divested its Honor business unit while placing more emphasis on patent royalty as a source of revenue
- ZTE's Q1'21 revenue increased 32% YoY. Sales in China grew by 16.9% YoY, while sales in Europe, Americas and Oceania slipped slightly by 1.3% YoY

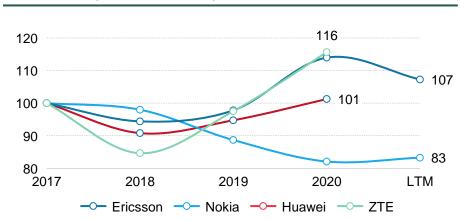
Indexed Quarterly Group revenues

Q4'19 – Q1'21 (index Q4'19=100)

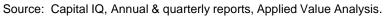


Indexed yearly segment revenues

2017 - LTM (index 2017=100)

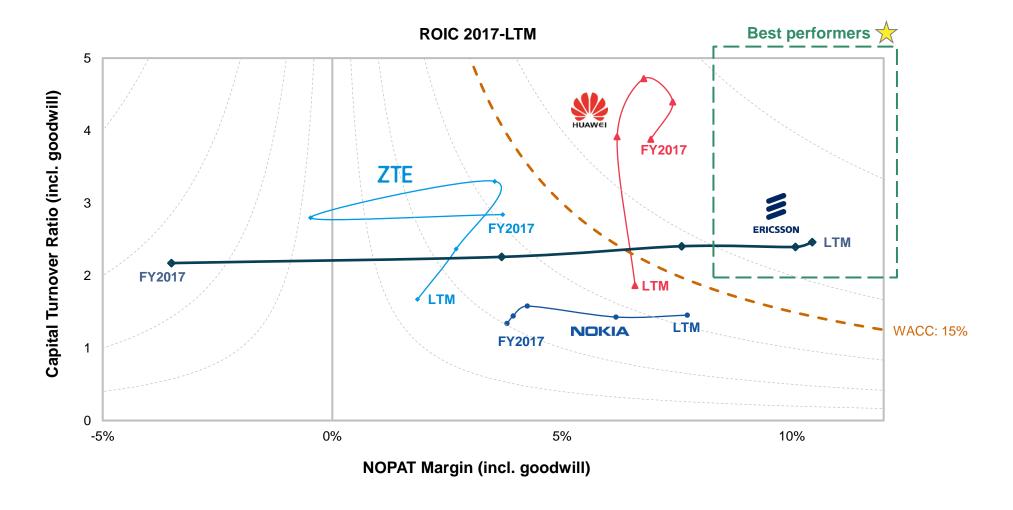


Notes: Fiscal years are used in the yearly analysis. Included segments per company: Huawei (Carrier), Ericsson (Networks, Digital Services, Managed Services), Nokia (Networks, Software), ZTE (Operator Network).





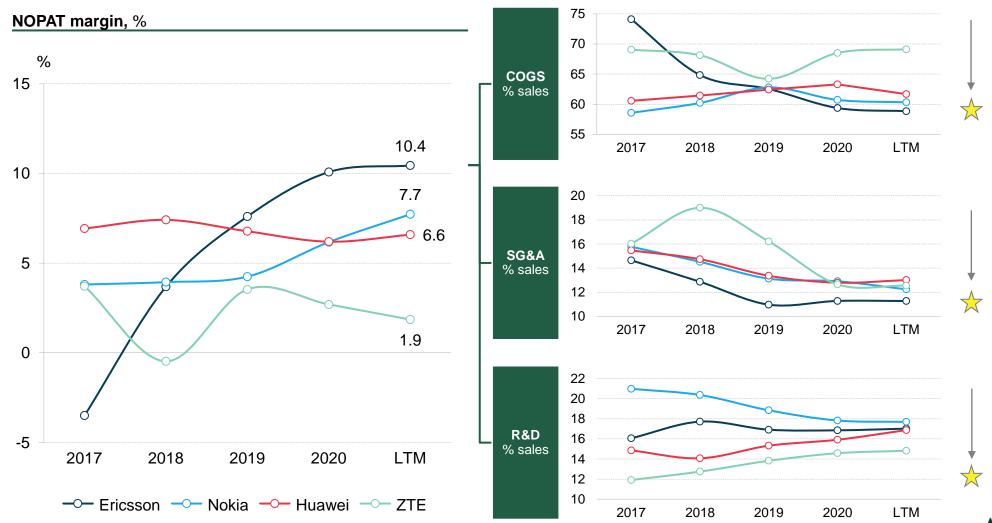
ROIC of Ericsson and Nokia improved continuously over the past five years, achieving 13.9 pp. and 3.9 pp. of growth respectively





Note: Fiscal years are used in the yearly analysis. Huawei reports annually. LTM ROIC analysis of Huawei and ZTE is based on data from 1Q'20 – 4Q'20. Source: Capital IQ, Annual & quarterly reports, Applied Value Analysis.

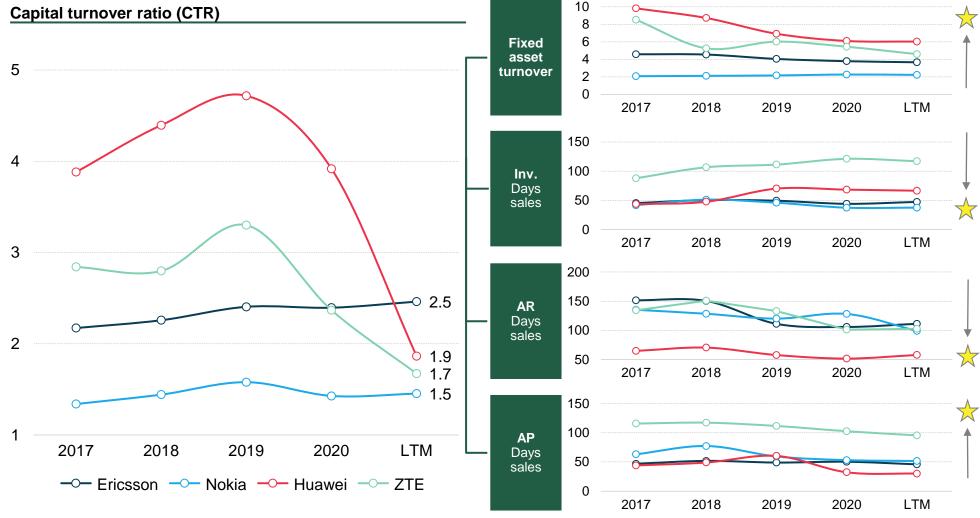
ZTE's COGS ratio is around 10 pp. higher than it peers, weighing its NOPAT margin down to 1.9%, falling significantly behind



Notes: Fiscal years are used in the yearly analysis. LTM analysis of Huawei and ZTE is based on data from 1Q'20 – 4Q'20. Source: Capital IQ, Annual & quarterly reports, Applied Value Analysis.



Nokia's Fixed asset consistently falls behind its peers averaging at around 2.2 over the past five years, leading CTR to hover around 1.5



Notes: Fiscal years are used in the yearly analysis. LTM analysis of Huawei and ZTE is based on data from 1Q'20 – 4Q'20. Source: Capital IQ, Annual & quarterly reports, Applied Value Analysis.



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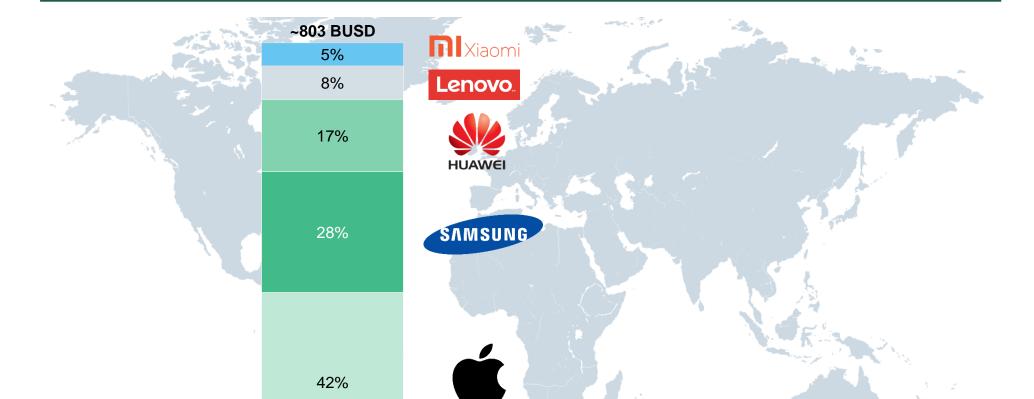
3. Device OEMs

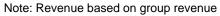
About Applied Value



The Q1 2021 report includes seven major device manufacturers

Report overview Revenue in BUSD, LTM





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



Peer overview

Business segments and revenue share in 2020, % **Description** Company iPhone: Mobile Phones Wearables & Home Services: iTunes Store, iCloud, Apple Pay, other services Mac: Laptops & Personal Computers iPad: Tablets Wearables & Home: Apple Watch, Apple branded accessories for Apple products Information Technology & Mobile Communications: Mobile Phones, Consumer Electronics (CE) Harman Communication systems and computers Information Technology & Mobile Communications (IM) SAMSUNG <u>Device Solutions</u>: Semiconductor Business and display panels Devise Solutions (DS) - Semiconductor Consumer Electronics: TVs, monitors, printers, air conditioners and refrigerators Device Solutions (DS) - Display Panel (DP) Harman: Infotainment, connected solutions for automakers, and consumers Carrier: Building telecommunications networks and services Enterprise: Equipment, software and services to enterprise customers Enterprise Consumer: Manufacturing of electronic communication services (e.g. phones) Consumer Others: Communication services not applicable to above descriptions Intelligent Devices Group (IDG) IDG: Personal computer and smart devices, and mobile businesses Lenovo Data Center Group (DCG) DCG: Provide data center solutions Smartphones: Mobile devices, Smartphone, Tablet IoT & Lifestyle products: Smart TVs, scoters, vacuum cleaners, cameras, etc. IoT and Lifestyle Products **N** Xiaomi Internet Services: Preloaded apps, services and advertisements Internet Services Other: Miscellaneous additional services and products Others



Key takeaways from the Device OEM segment

Key takeaways

Creating Shareholder Value

- 1. Apple's ROIC far exceeds its peer, reaching 219.8% in LTM, followed by Lenovo at 27.1%
- 2. Xiaomi's ROIC saw significant improvement in LTM, improving 8.3 pp. when compared with 2020

Revenue Performance

- 1. Xiaomi experienced 67% of YoY revenue growth in Q1'21. Xiaomi is now the third largest smartphone vendor by shipment
- 2. Lenovo's mobile segment (Motorola) also saw significant growth of 86% YoY with innovative product launches over the past year

Margin Performance

- 1. NOPAT margin of Apple reached ~20%, the highest over the past five years
- 2. Xiaomi and Lenovo saw NOPAT margin advancement of 0.9 pp. and 0.7 pp. respectively in LTM

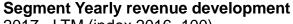
Capital Efficiency

- Apple, Lenovo and Xiaomi saw CTR improvement of 5.18, 1.74 and 1.29 respectively in LTM
- 2. Days sales outstanding in the segment averaged around 46 days in LTM



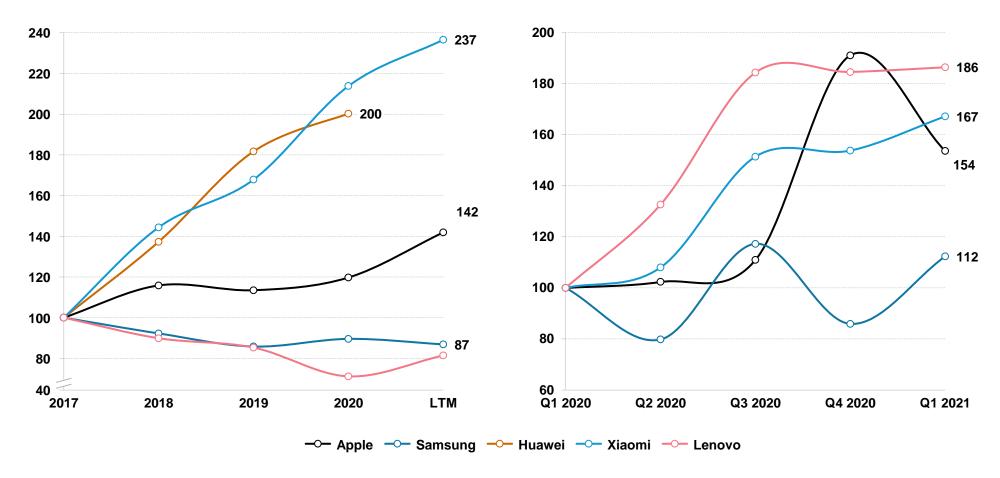


Xiaomi experienced 67% YoY revenue growth in Q1'21, adjusted net profit reached record high with an increase of 163.8% YoY



2017 - LTM (index 2016=100)

Segment Quarterly revenue development Q4'19 – Q1'21 (index Q4'19=100)



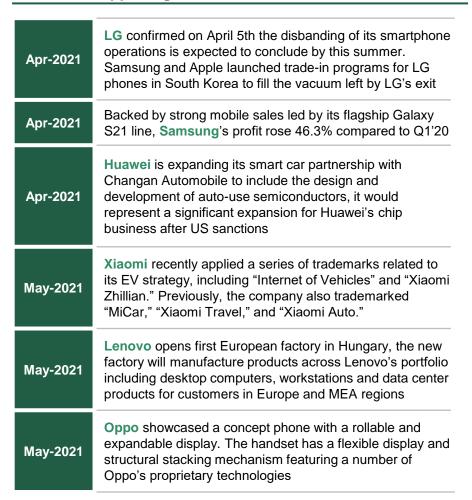


Note: Included segments per company: Huawei (Consumer business), Samsung (Information technology and mobile communication), Apple (All segments), Xiaomi (All segments), Motorola (Products and System Integration)

Source: CapitalIQ, Annual/Quarterly/Half Year Reports

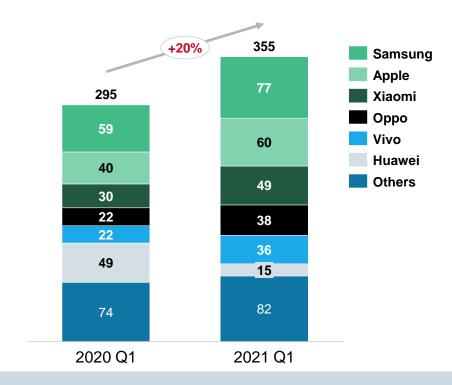
Events across the Device OEMs sector from the last 3 months

News and happenings for Device OEMs



Global smartphone shipments

Million units

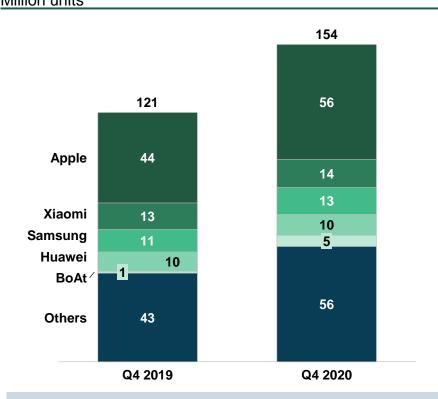


The global smartphone market posted record firstquarter revenues driven by strong revenue growth of top five OEMs. Shipments in regions including Europe, China and India were stronger than expected.



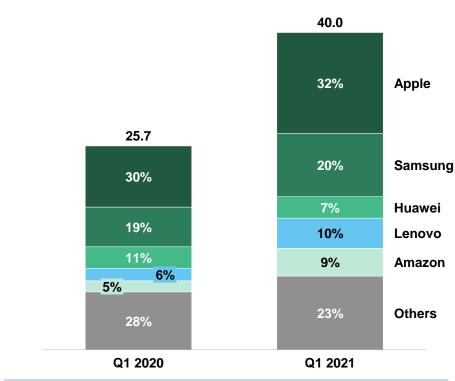
Economic recovery continues to stimulate demand of tablets and wearables, YoY shipment grew by 55.6% and 27.2% respectively

Global wearables shipments Million units



Worldwide shipments of wearable devices reached 153.5 million in the fourth quarter of 2020 (4Q20), a year-over-year increase of 27.2%. Shipments for the full year grew 28.4% to 444.7 million units.

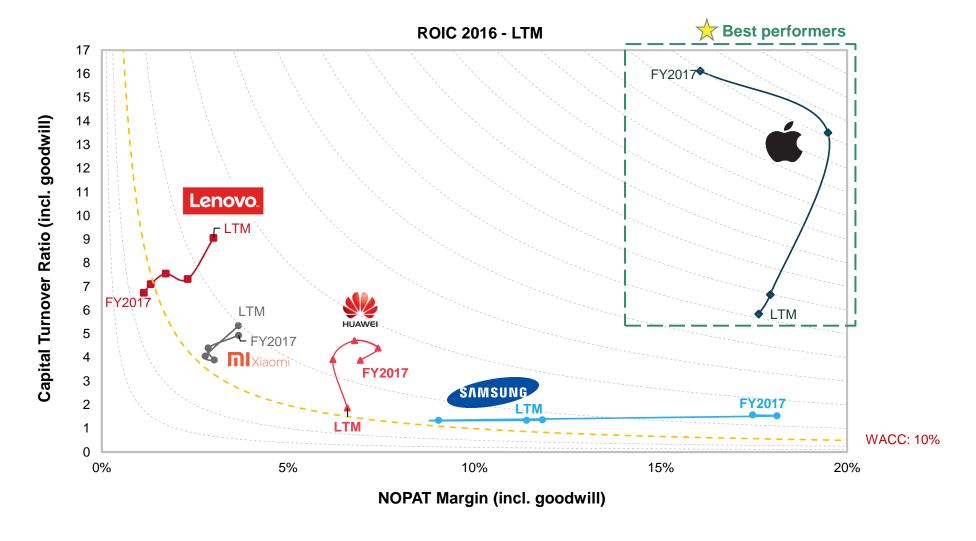
Global tablet shipments Million units

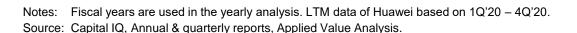


Tablets' sales in Q1'21 grew 55.2% YoY growth and shipments totaling 39.9 million units. However, as buyers increasingly turn towards competing products, such as thin and light notebooks, the future of tablets will remain under constant competition



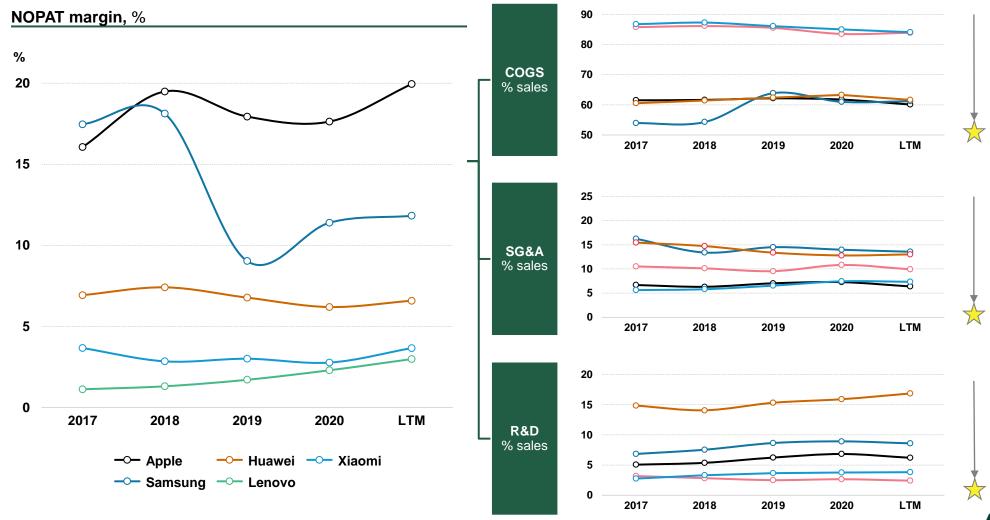
ROIC of Lenovo and Samsung enhanced the most in 2020 at 3.9 p.p. and 3.2 p.p. respectively







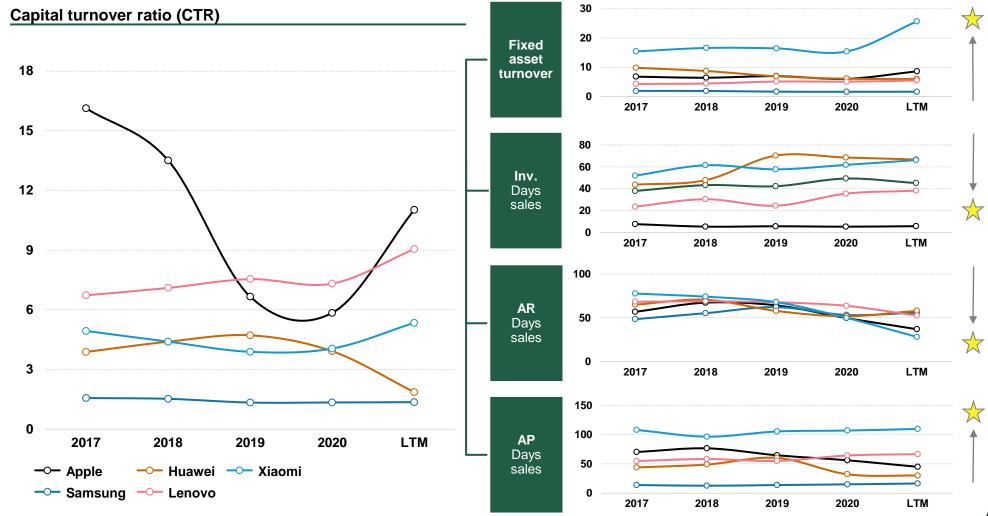
Apple's achieved a NOPAT margin of ~20% in LTM; R&D over sales ratio of Huawei exceeds its peers by at least 8 pp.



Notes: Fiscal years are used in the yearly analysis. LTM data of Huawei based on 1Q20 – 4Q'20. Source: Capital IQ, Annual & quarterly reports, Applied Value Analysis.



CTR of Apple, Lenovo and Xiaomi started to uptick in LTM as fixed asset turnover tilts upward; CTR of Huawei continues to decline reaching ~1.9



Notes: Fiscal years are used in the yearly analysis. LTM data of Huawei based on 1Q20 – 4Q'20. Source: Capital IQ, Annual & quarterly reports, Applied Value Analysis.



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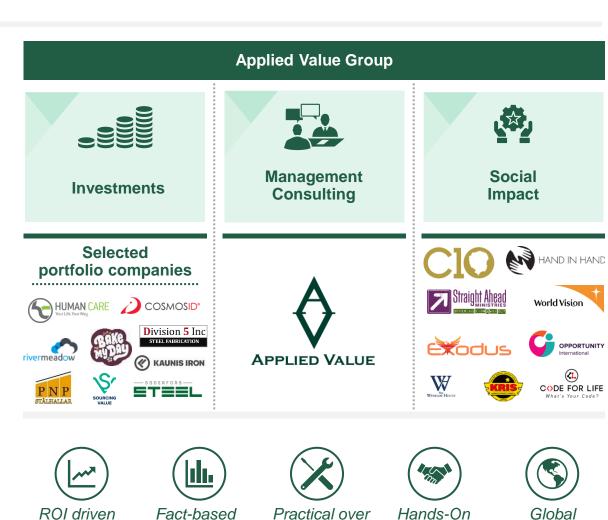
About Applied Value



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







theoretical



CODE FOR LIFE

Global

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Our Lean Growth framework is based on Focus, Simplicity, Speed – guiding principles to raise client performance





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