Financial Performance and Trends in the Telecom Industry

Applied Value

Q3 2020

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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.

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

Operators

América Móvil
AT&T
STC
BCE
MTN
etisalat
SK telecom
elisa
ooredoo
proximus
NTT
orange
TELE2
swisscom
Telefónica
TDC
telenor
ROGERS
MILLICOM
tigo
TURKCELL
VEON
Telia Company
TELUS
AIS
verizon
Deutsche Telekom
Telkom Indonesia
kpn

Infrastructure OEMs

NOKIA
ERICSSON
HUAWEI
ZTE

Device OEMs

SAMSUNG
MI Xiaomi
LG
HUAWEI
Lenovo
MOTOROLA

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Executive summary

Key takeaways per segment

Operators

1. Quarterly sales volume have returned to pre-pandemic levels in Q3'20
2. Profitability margins of most operators widened this quarter, of which EBITDA margin grew by 1.2 p.p. YoY
3. ROIC of operators in the LTM spread from 3% to 18%; Telefonica witnessed the largest YoY ROIC development of 2.7 p.p.

Infrastructure OEMs

1. As the global supply chain recovers, Ericsson, Nokia and ZTE all achieved ~10% QoQ revenue growth
2. Sanctions began to weigh on Huawei's revenue growth, sales in Q3 were down 20% compared to the previous quarter
3. Operator Network segment revenue of ZTE grew by 28% from 2016 to LTM

Device OEMs

1. Global smartphone shipments reached 354 million units in Q3, a 22% QoQ growth
2. Driven by the need for affordable access to basic computing for remote work and education, tablet shipments surged by 93% QoQ
3. With Huawei being restricted, Vivo, Oppo, Samsung and Xiaomi are moving aggressively to seize the market in Europe and India

Roundup of telecommunication forecasts

Mobile Traffic Growth: Ericsson forecasts global mobile traffic **will expand 27% annually between 2019 (38EB per month) and 2025 (160EB per month)**, driven by: 1) the increasing use of embedded videos across various online applications; 2) the growth of subscription video-on-demand (SVOD) streaming services (in terms of subscribers and viewing time per subscriber); and 3) smart devices' screen resolution advancements.

Source: Ericsson

MEC Market Expansion: The global Mobil Edge Computing (MEC) market is expected to expand sharply from **US$2.5bn in 2020 to US$43.4bn at +37.4% CAGR in 2030**

Source: Grandview Research

AI Industry Growth: Spurred by the 5G rollout, China's AI, robotics, and autonomous driving (ADAS) industries are expected to expand at **30% CAGR** through 2030.

Source: Mirae Asset Daewoo Research

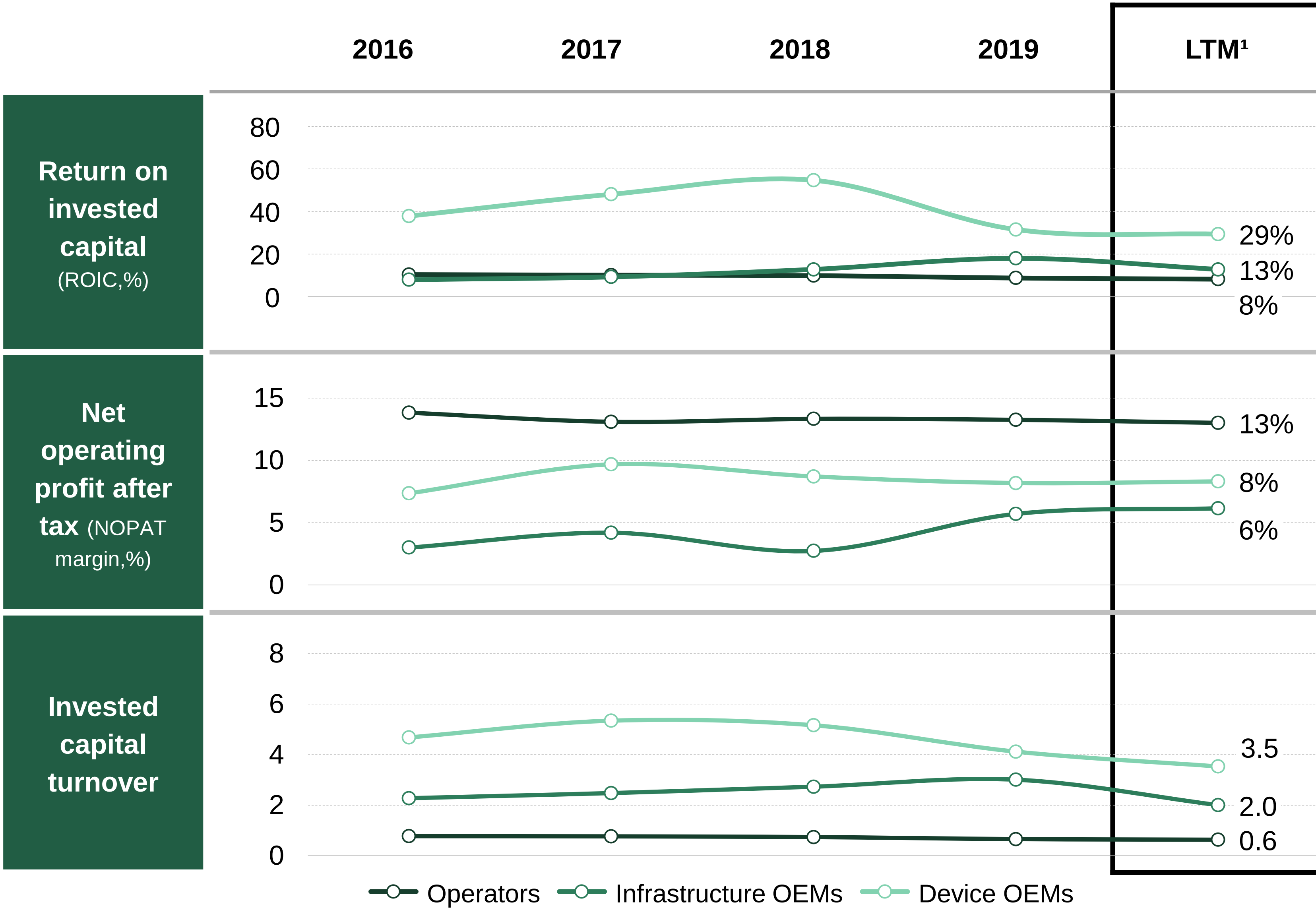
Wifi Market Growth: The global Wi-Fi 6 enterprise market is expected to grow by about 8.4 million units, rising from **0.4 million units in 2019** to reach **8.8 million units in 2025**.

Source: Frost & Sullivan

Wearables Opportunities:: Global shipments of wearable devices are expected to total **396 million** in 2020, this marks a 14.5% increase from the 345.9 million units shipped in 2019. With Apple recently announcing Fitness+, Amazon's new Halo, and Fitbit's Fitbit Premium, **complementary service to wearables** is a trend to be watched.

Source: IDC

Financial overview (1/2): Yearly performance



Change
2016–LTM

Device OEMs **-8.5 p.p.**
Infra OEMs **+4.9 p.p.**
Operator **-2.1 p.p.**

Operator **-0.8 p.p.**
Device OEMs **+1.0 p.p.**
Infra OEMs **+3.1 p.p.**

Device OEMs **-24.5%**
Infra OEMs **-12.1%**
Operator **-18.4%**

Note: 1. LTM refers to Q3 2019 – Q2 2020 for most companies included in the report while 2019 refers to companies' reporting fiscal year 2019
Note: Deviations due to different selection of operators and restated company financials. Telecom report data is based on fiscal years and calendar quarters.

Financial overview (2/2): Quarterly performance

	Segment	Q3 '20	Q2 '20	Q1 '20	Q4 '19
Sales YoY (% change)	Operators	1.7%	-1.8%	-3.1%	0.4%
	Infrastructure OEMs	10.1%	12.6%	-4.1%	4.3%
	Device OEMs	2.1%	3.3%	-1.7%	4.9%
Net operating profit after tax (NOPAT) YoY (p.p. change)	Operators	-0.6 pp.	-0.5 pp.	0.0 pp.	0.4 pp.
	Infrastructure OEMs[1]	0.0 p.p.	0.6 p.p.	1.2 p.p.	0.2 p.p.
	Device OEMs[2]	-2.0 p.p.	-0.1 p.p.	0.2 p.p.	-1.2 p.p.
EBITDA YoY (p.p. change)	Operators	0.9 pp.	0.6 pp.	1.4 pp.	5.0 pp.
	Infrastructure OEMs[1]	-0.5 p.p.	0.1 p.p.	1.0 p.p.	0.0 p.p.
	Device OEMs[2]	-1.2 p.p.	0.3 p.p.	0.4 p.p.	-1.4 p.p.

Notes: 1,2. Excluded Huawei (reports annually). Telecom report data is based on fiscal years and calendar quarters.
Source: Capital IQ, Annual & quarterly reports, Applied Value Analysis.

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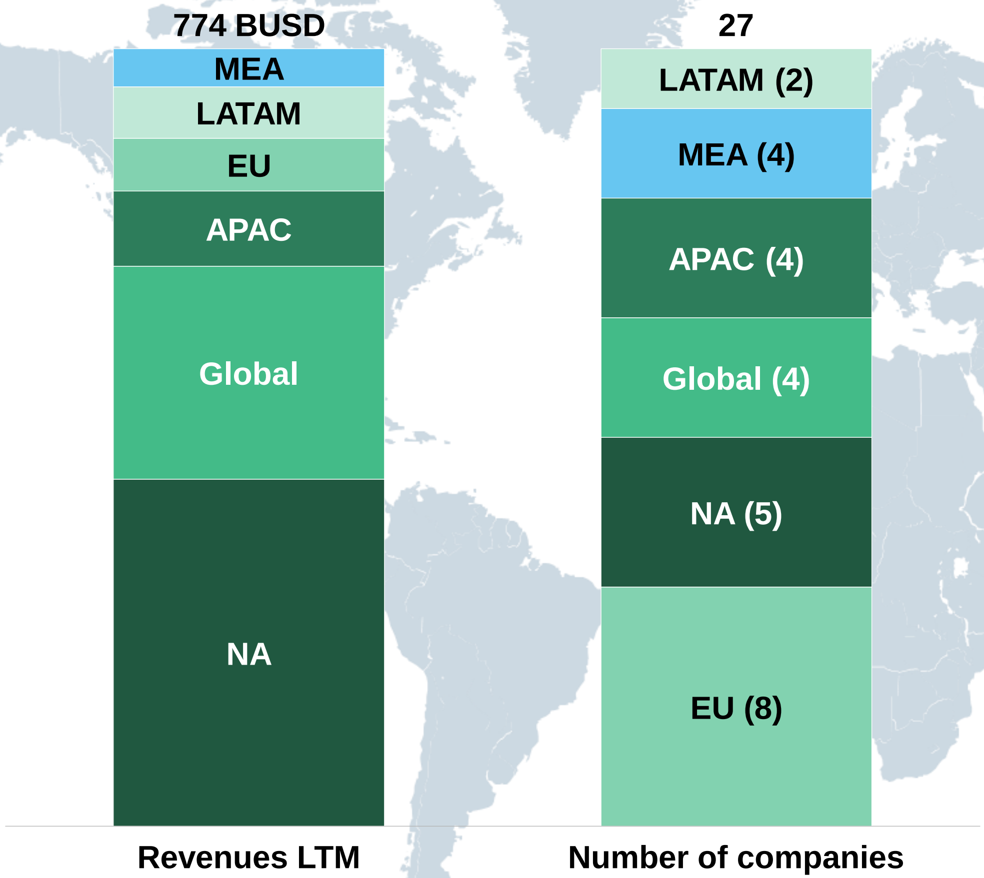
The Q3 '20 report covers 27 of the largest operators globally, accounting for 774 billion USD in revenues

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 operators averaged at 8.5% in LTM
2. Around half of the operators analyzed decreased their ROIC in LTM – STC had the largest decline of 2.5 p.p.
3. Telefonica had the largest ROIC improvement of 2.7 p.p.

Revenue Performance

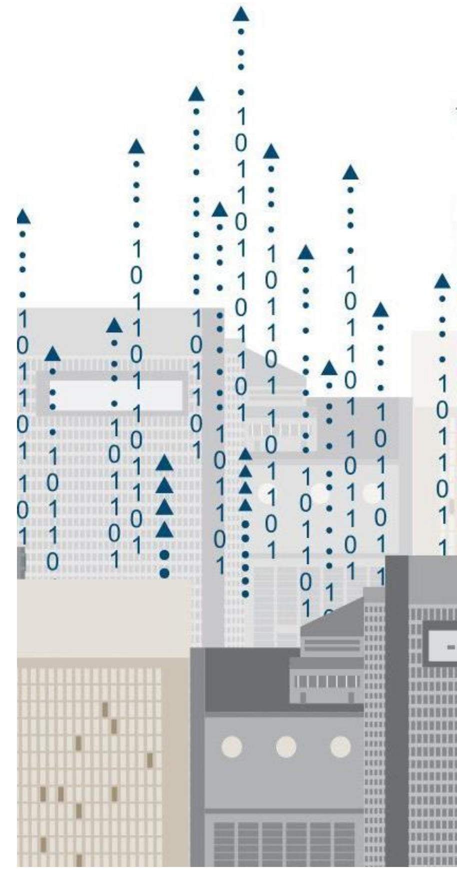
1. Operator of all regions experienced moderate revenue growth in LTM compared with LTM-1, barring North America
2. Apart from Deutsche Telekom which received a revenue boost with the acquisition of Sprint, Turkcell improved its revenue the most YoY by 16%

Margin Performance

1. Operators achieved the average EBITDA margin of 40% and average NOPAT margin of 15% in Q3
2. YoY profitability analysis by region showed that EBITDA margin improved or leveled compared to Q3’19 for all regions, while NOPAT margin of North American and APAC operators narrowed

Capital Expenditure

1. A ~17% CAPEX to revenue ratio has sustained throughout 2016 to LTM
2. KPN had the highest CAPEX ratio of 22% in Q3’20; Turkcell had largest increase in CAPEX YoY of 9 p.p.



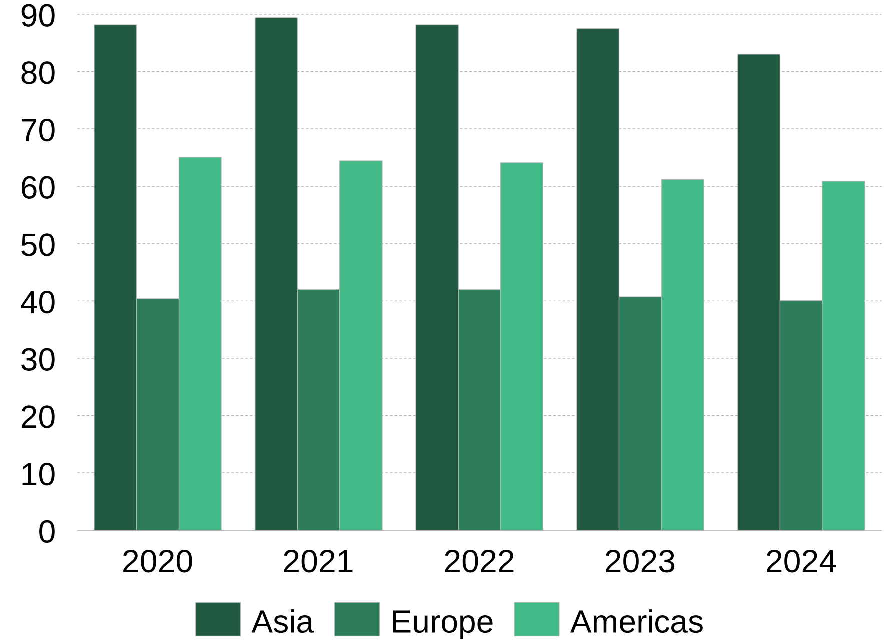
Events across the Operator sector from the last 3 months

News and happenings for operators

Sep-2020	**Verizon** committed $1.89 billion to acquire 557 3.5 GHz Priority Access Licenses (PALs) in 157 countries, expanding mid-band spectrum capacity of the operator despite the power restrictions accompanying 3.5GHz band.
Sep-2020	**Telefonica Germany**, together with **AWS** and **Ericsson** will start the virtualization of the 5G core network and implementation of first 5G network functions for first selected partners in the industry.
Sep-2020	**China Unicom** and **China Telecom** have jointly built and currently operate over 300,000 5G base stations across China, expanding their 5G network to all prefecture-level and above cities in China, the joint deployment has helped the operators to save $8.87 billion in CAPEX.
Sep-2020	**Deutsche Telekom** is partnering with France’s OVHcloud to develop a new cloud computing offer for European companies and public sector entities, the cloud platform will target 'all sectors sensitive to data sovereignty'.
Sep-2020	**Telefonica** and **Rakuten** are cooperating to jointly develop products for Open RAN and for cloud native, automated core and OSS solutions. The pair will also enter a joint procurement initiative for Open RAN and cloud native network solutions.
Sep-2020	**Telia**, **Ericsson** and **Intel** have partnered up to offer a 5G-enabled autonomous electric minibus ride in Stockholm. Through this and subsequent projects, key issues such as road congestions, air quality and carbon emissions are seeking to be resolved.

Operator CAPEX Estimation by Region

BUSD

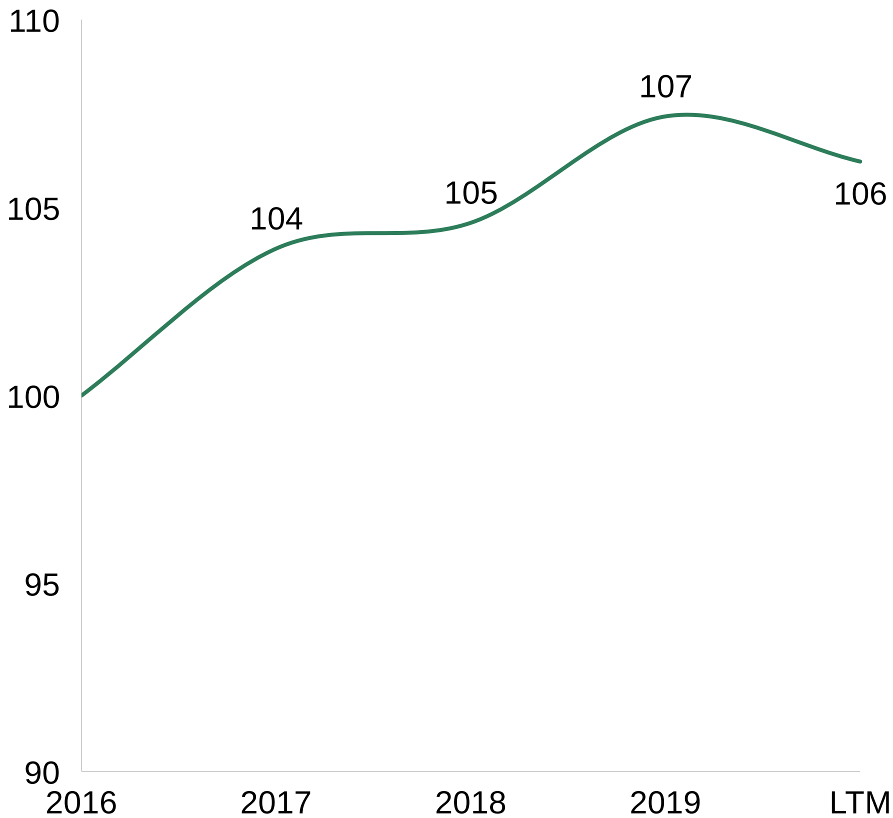


Unclear monetization prospect, technology such as OpenRAN that allows unbundling of radio equipment by vendor, and uncertainty due to Huawei, are leading telcos in Europe, Asia and LATAM to delay 5G rollout and reduce CAPEX

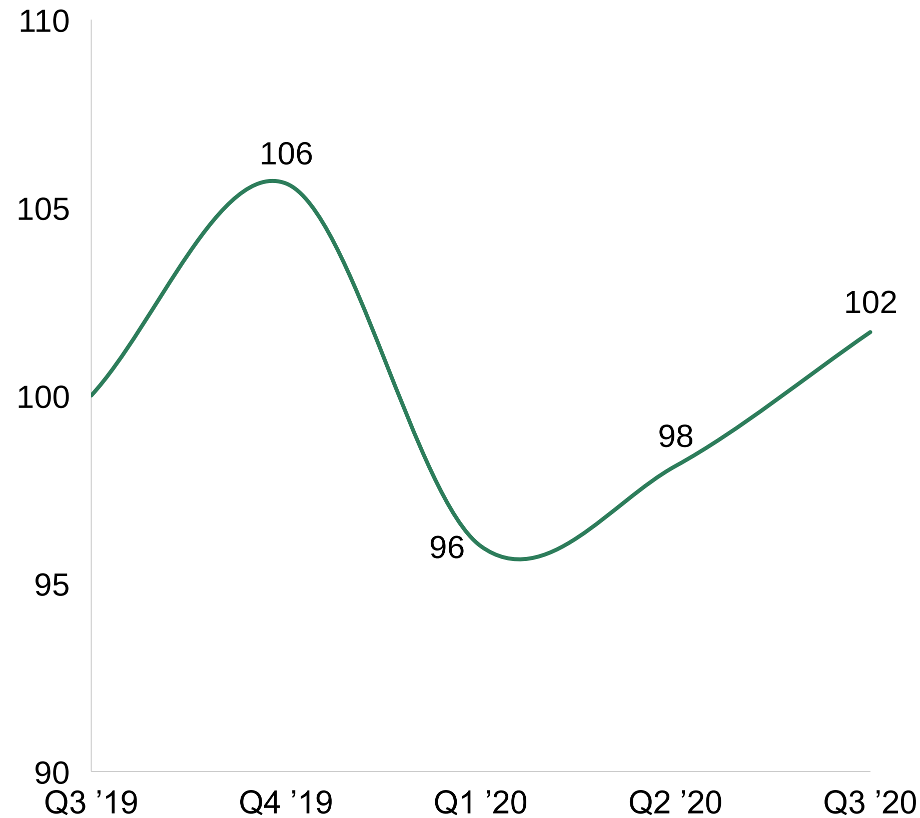
Source: Press & News, Credit Suisse, Applied Value Analysis.

Operator revenue recovered steadily for the past two quarters, achieving a 2 p.p. YoY growth

Indexed Yearly revenues
2016 - LTM (index 2016=100)



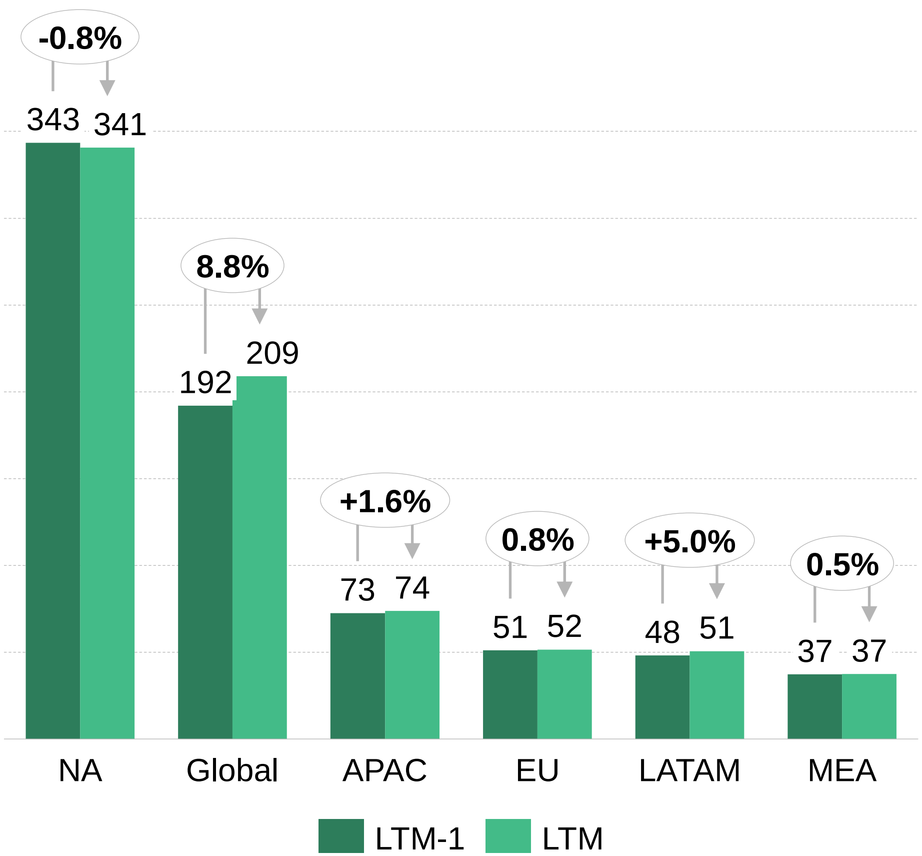
Indexed Quarterly revenues
Q3'19 – Q3'20 (index Q3'19=100)



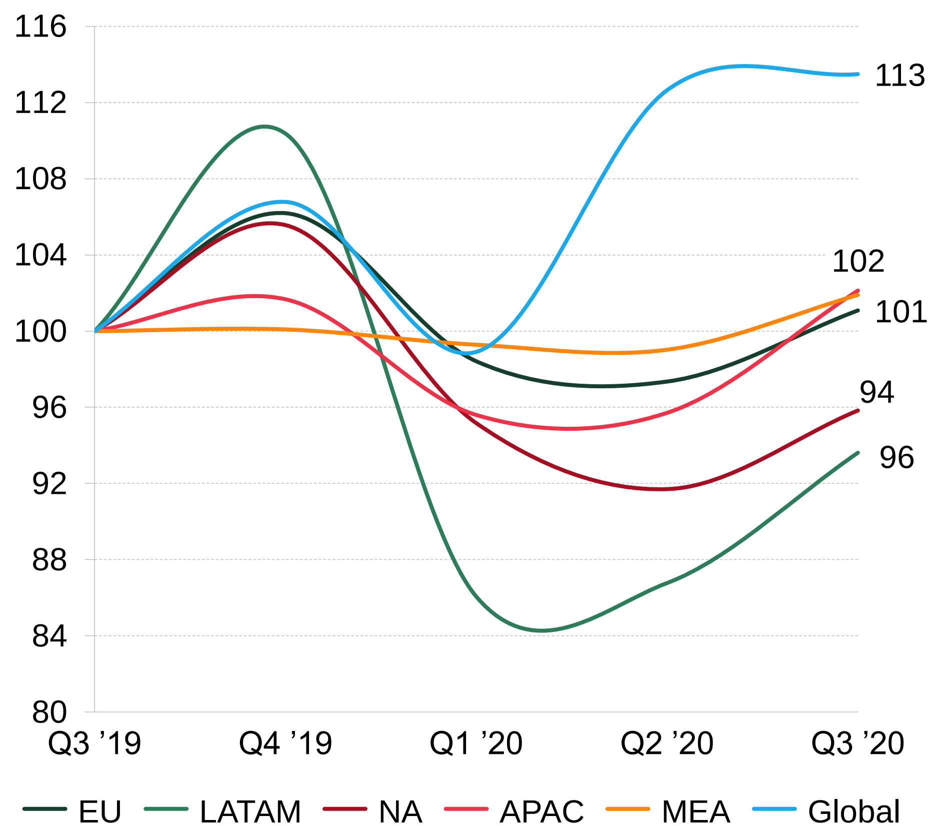
Note: The included companies differ from previous quarter.
Source: Capital IQ, Annual & quarterly reports, Applied Value Analysis.

Operators from all regions experienced QoQ revenue growth, approximating pre-pandemic quarterly sales volume

Yearly revenues by region
LTM-1 (Q4'18 – Q3'19), to LTM (Q4'19 – Q3'20), BUSD



Indexed Quarterly revenues by region
Q3'19 to Q3'20 (index Q3'19=100)

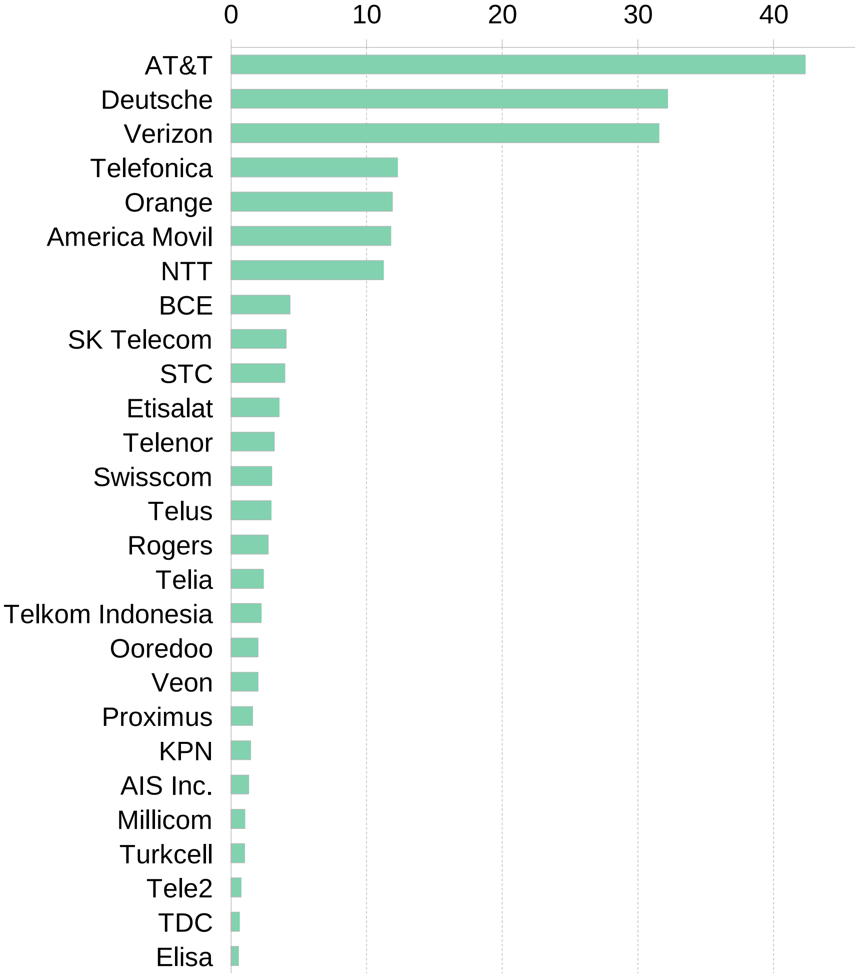


**Global operators' revenue skewed by Deutsche Telekom's acquisition of Sprint*

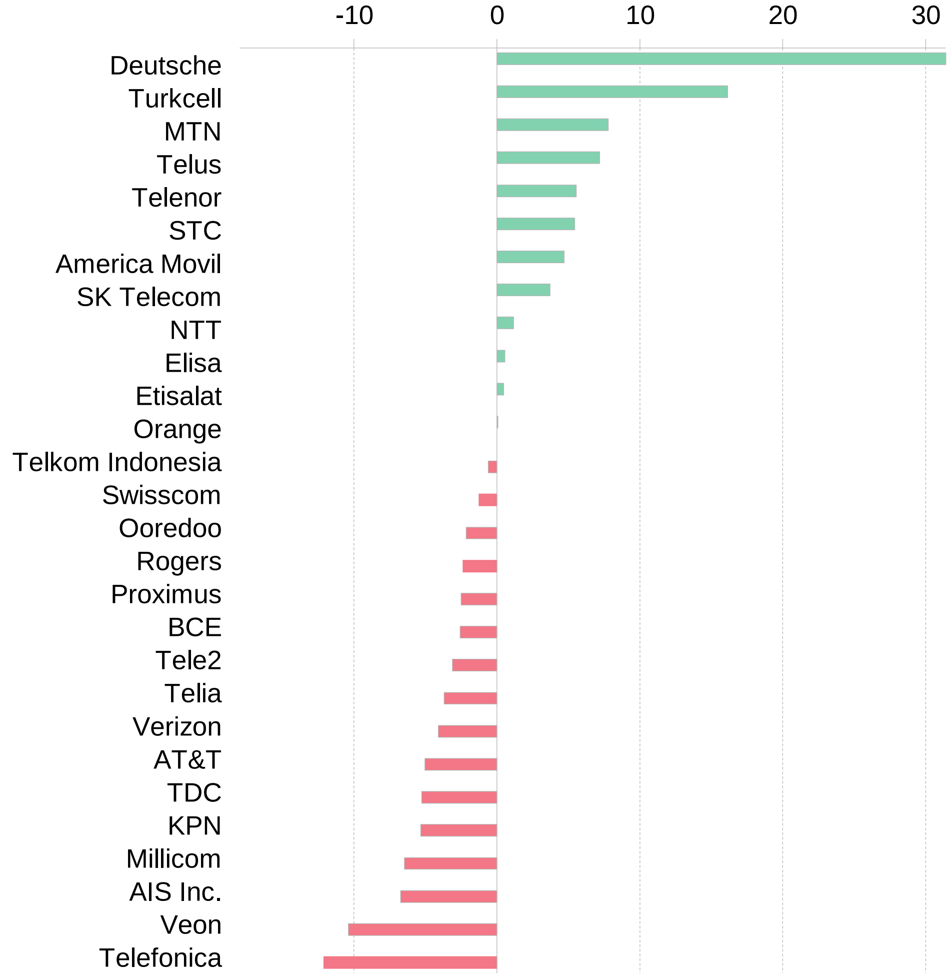
Note: The included companies differ from previous quarter.
Source: Capital IQ, Annual & quarterly reports, Applied Value Analysis.

Telefonica suffered the largest YoY revenue decline of 12.1% due to the pandemic and intensifying foreign exchange headwinds

Revenue by operator
Q3’20, BUSD



Revenue development by operator
Delta (Q3’20 vs. Q3’19), %

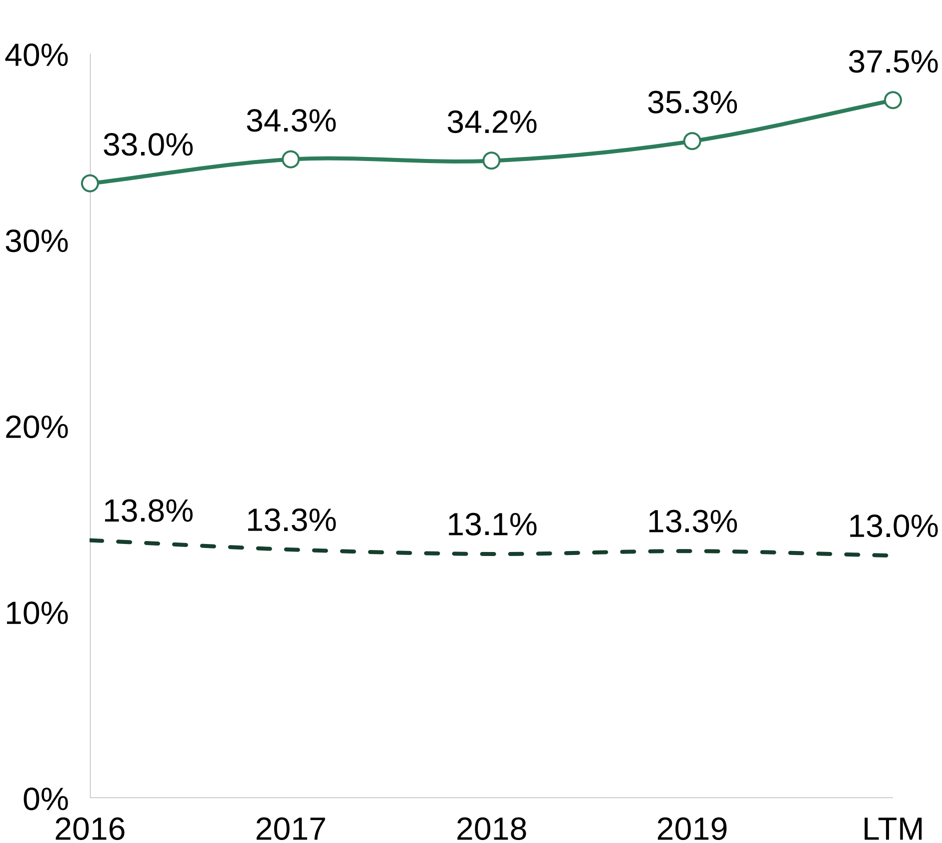


Note: The included companies differ from previous quarter. Revenue development of Deutsche Telekom is skewed by the acquisition of Sprint. MTN analysis based on H1’20 and H1’19 results.

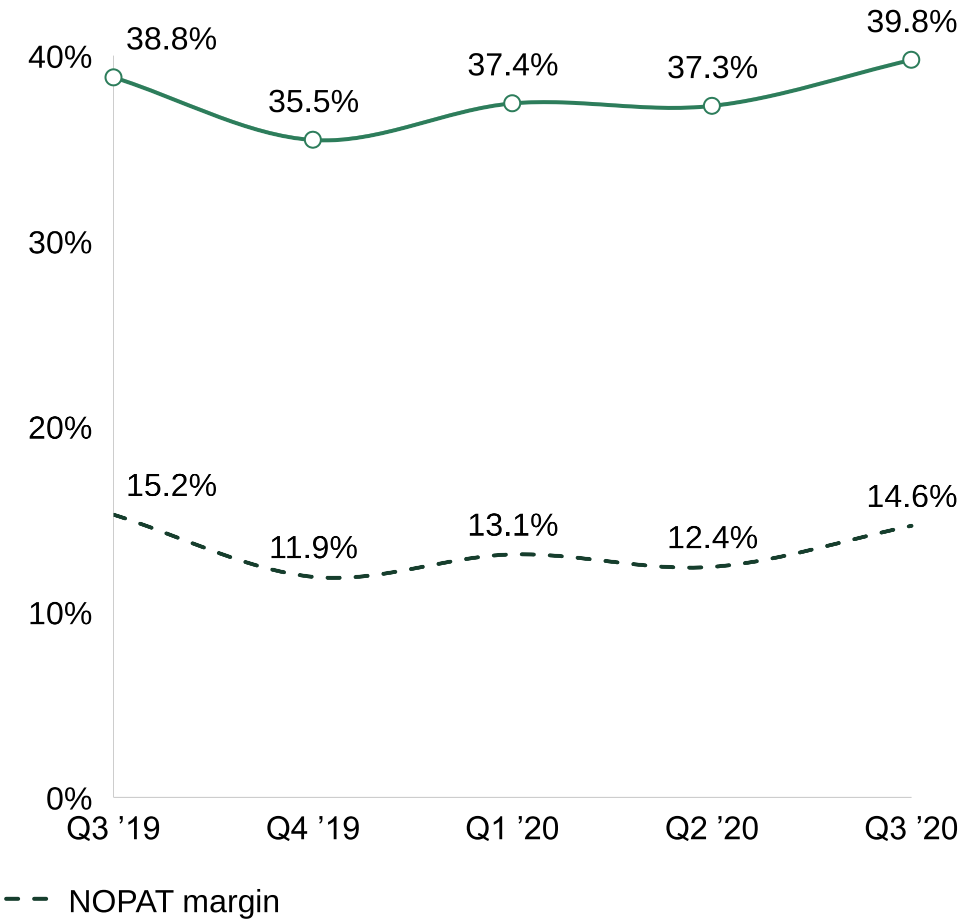
Source: Capital IQ, Annual & quarterly reports, Applied Value Analysis.

Profitability margin of most operators expanded in Q3'20 – EBITDA margin of the operator segment improved by 1.3 p.p. YoY

Yearly profitability development
2016 - LTM, %



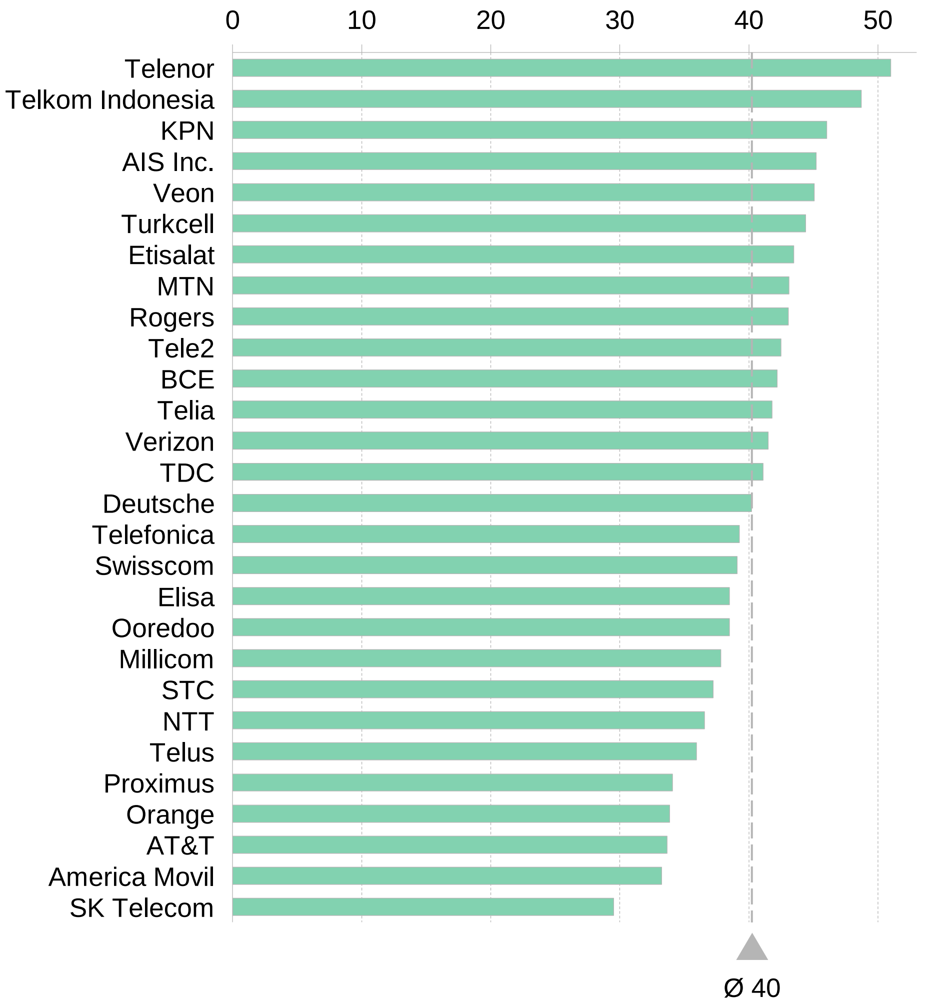
Quarterly profitability development
Q3'19 – Q3'20, %



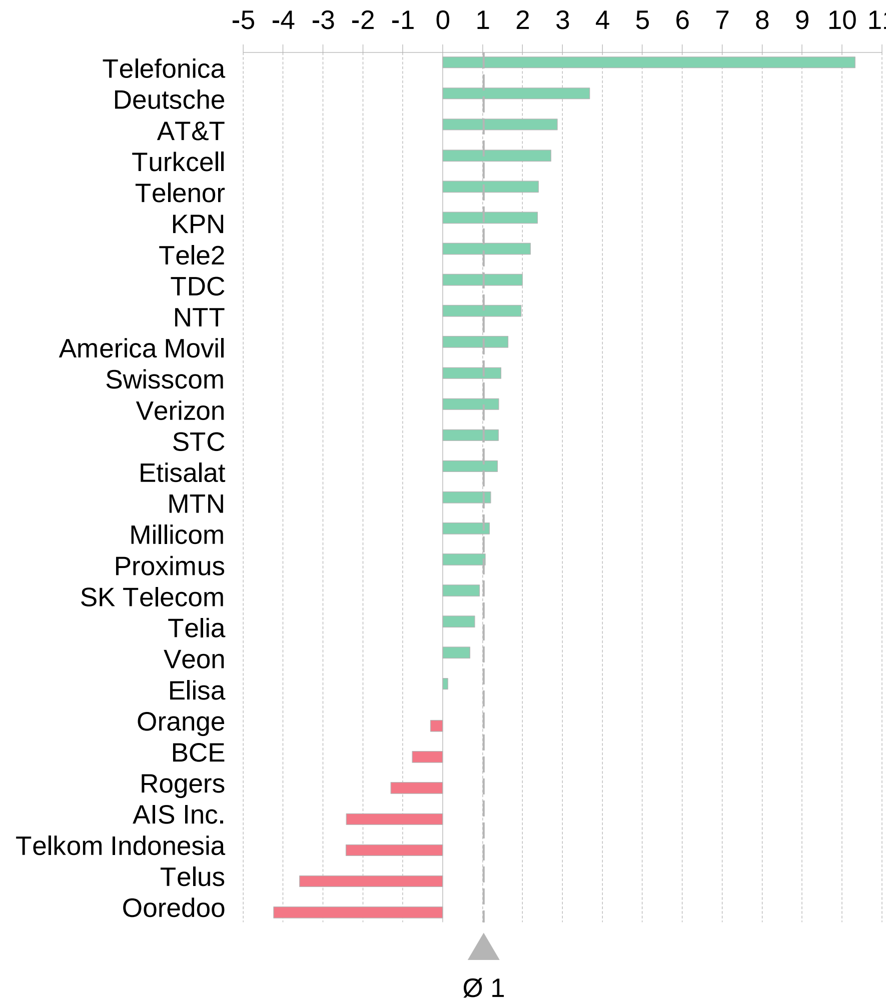
Note: The included companies differ from previous quarter.
Source: Capital IQ, Annual & quarterly reports, Applied Value Analysis.

Telefonica improved its EBITDA margin by 10.3 p.p. in Q3’20 – the improvement was mainly driven by a 26.7% YoY reduction in OPEX

EBITDA margin by operator
Q3’20, %



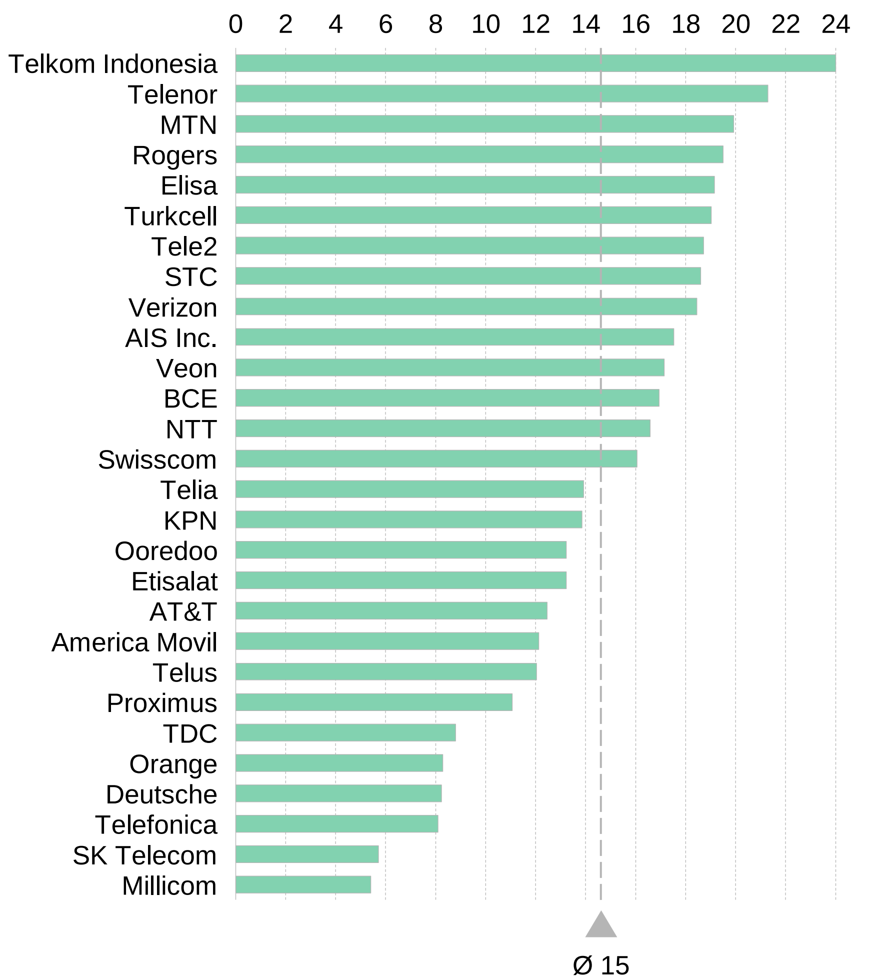
EBITDA margin development by operator
Delta (Q3’20 vs. Q3’19), p.p.



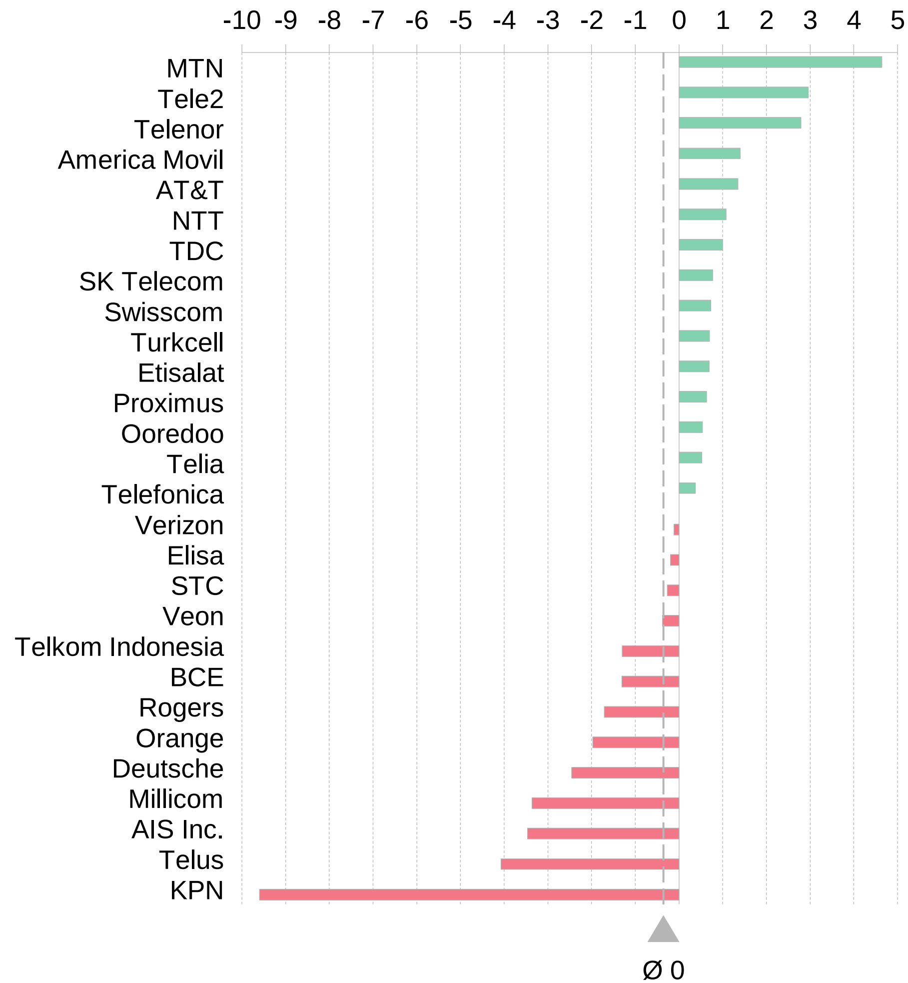
Note: The included companies differ from previous quarter. MTN analysis based on H1’20 and H1’19 results.
Source: Capital IQ, Annual & quarterly reports, Applied Value Analysis.

NOPAT margin averaged at 15% for the operators - Tele2 outperformed its peers by 3 p.p. margin expansion

NOPAT margin by operator
Q3'20, %



NOPAT margin development by operator
Delta (Q3'20 vs. Q3'19), p.p.

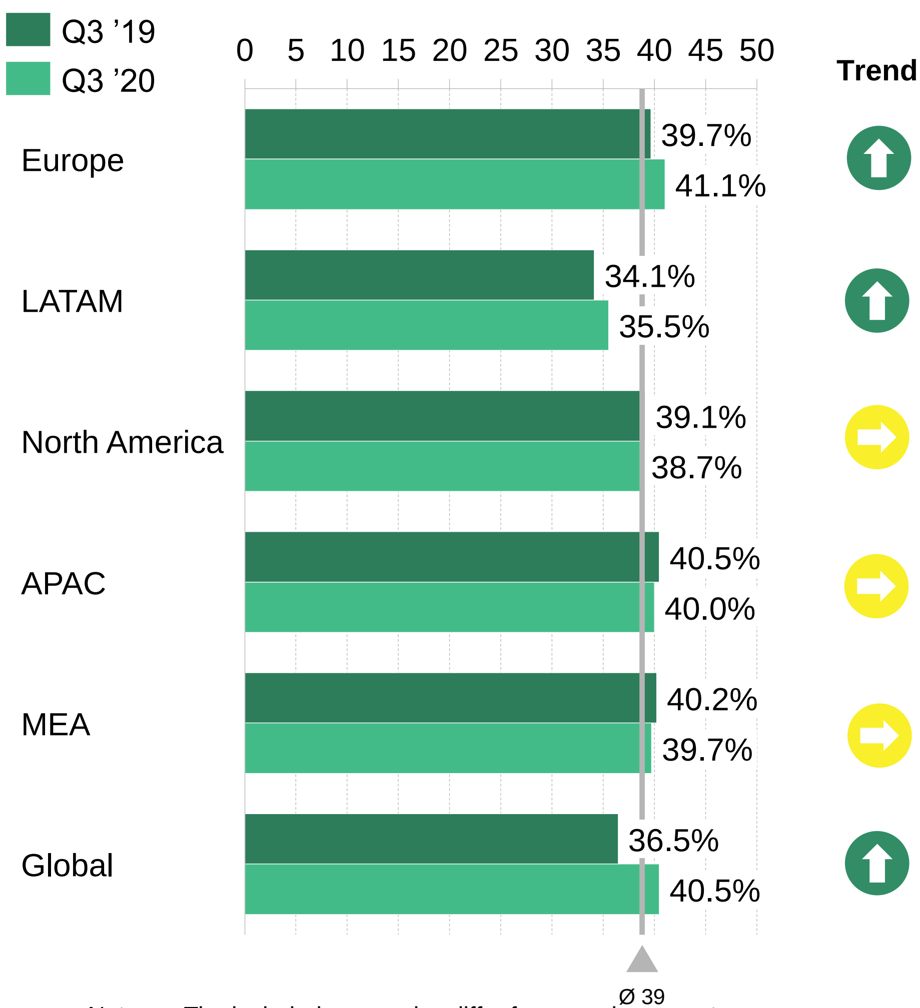


Note: The included companies differ from previous quarter. Orange excluded due to missing data. KPN's NOPAT contraction was driven by sale of data center and release of revenue provision in Q3'19. . MTN analysis based on H1'20 and H1'19 results.

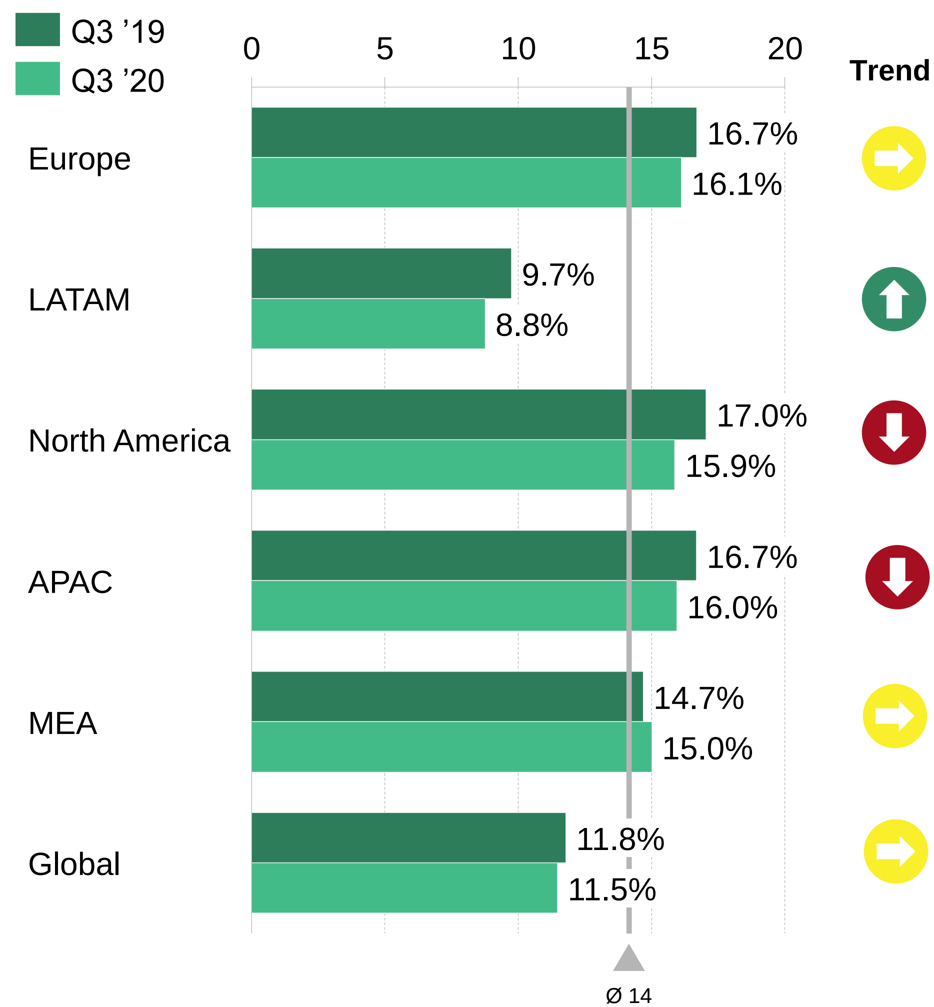
Source: Capital IQ, Annual & quarterly reports, Applied Value Analysis.

NOPAT margin of LATAM AND Global operators falls significantly behind the segment average of 14%

Average EBITDA margin by region

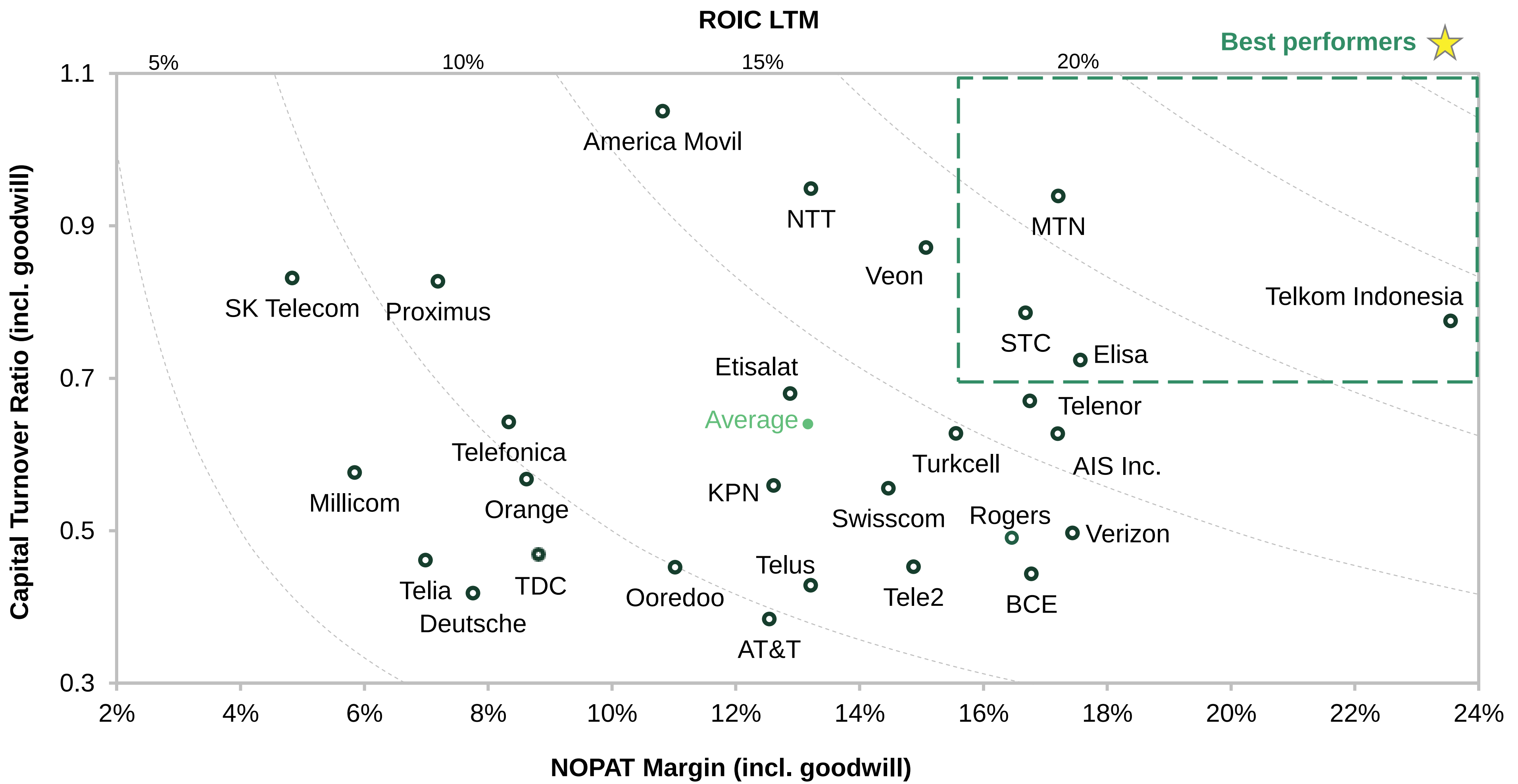


Average NOPAT margin by region



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

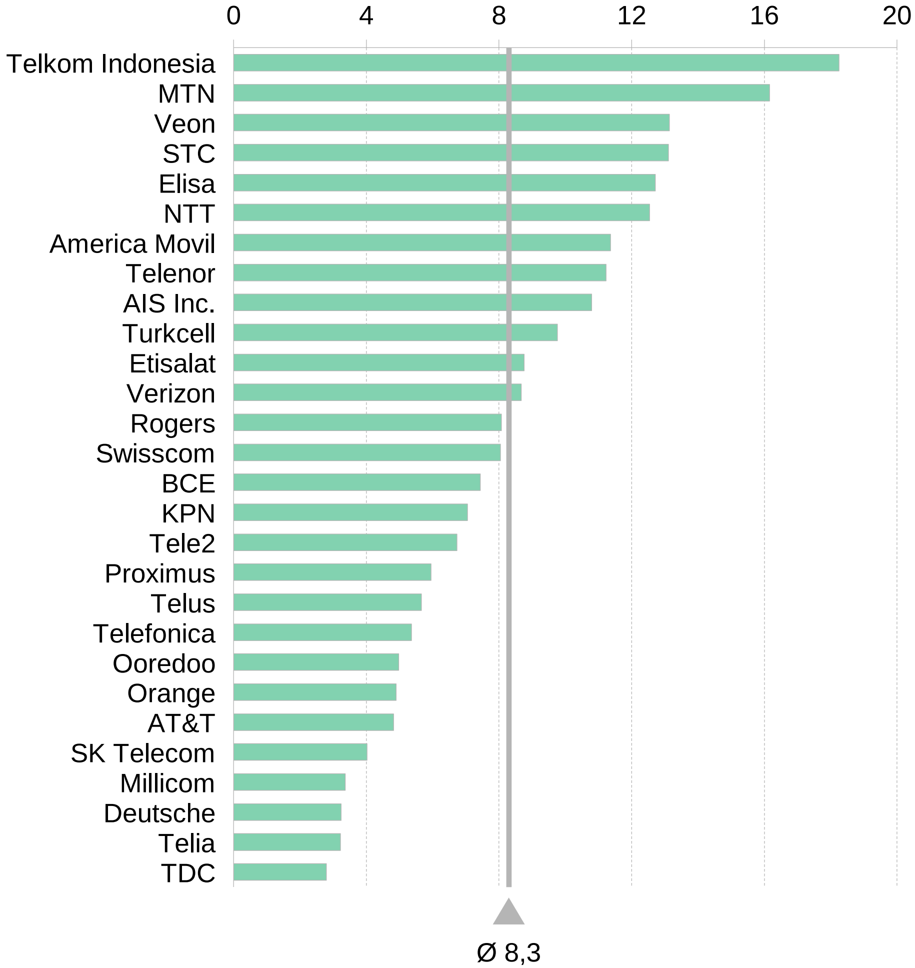
Average ROIC of the operator segment is 8.5%, Telkom Indonesia leads the segment with a ROIC of 18%



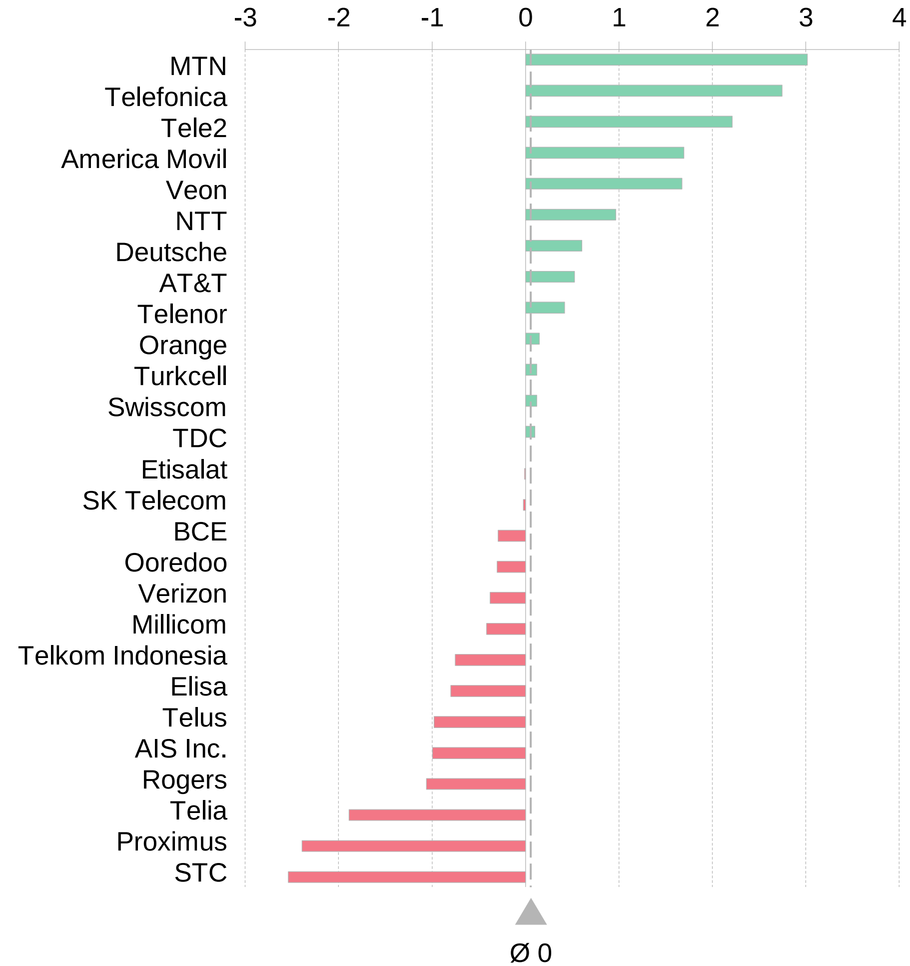
Notes: ROIC = Return on Invested Capital (actual return that the company has generated after tax). The included companies differ from previous quarter.
Source: Capital IQ, Annual & quarterly reports, Applied Value Analysis.

Despite being one of the top ROIC performers, STC experienced -2.5 p.p. ROIC development from LTM-1 to LTM due to a decline in NOPAT margin

ROIC by operator
LTM (Q4' 19 – Q3' 20), %



ROIC development by operator
Delta (LTM vs. LTM-1), p.p.

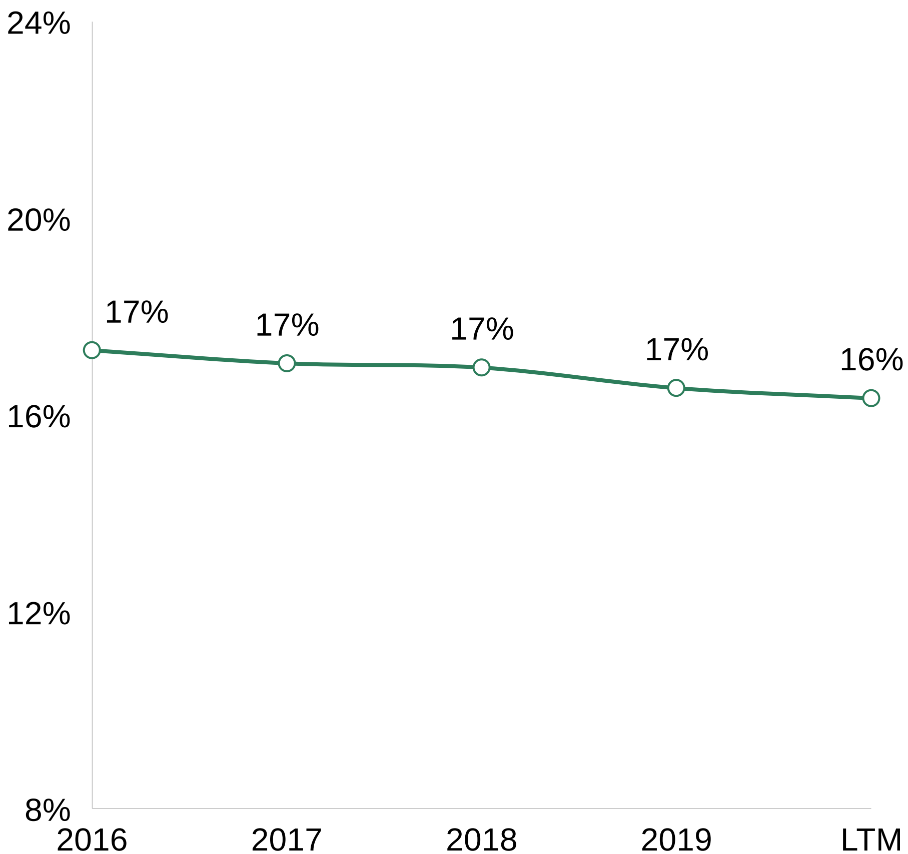


Note: The included companies differ from previous quarter. KPN (partially) is excluded from ROIC analysis due to missing data. MTN analysis based on results from H1'20 to H2'18

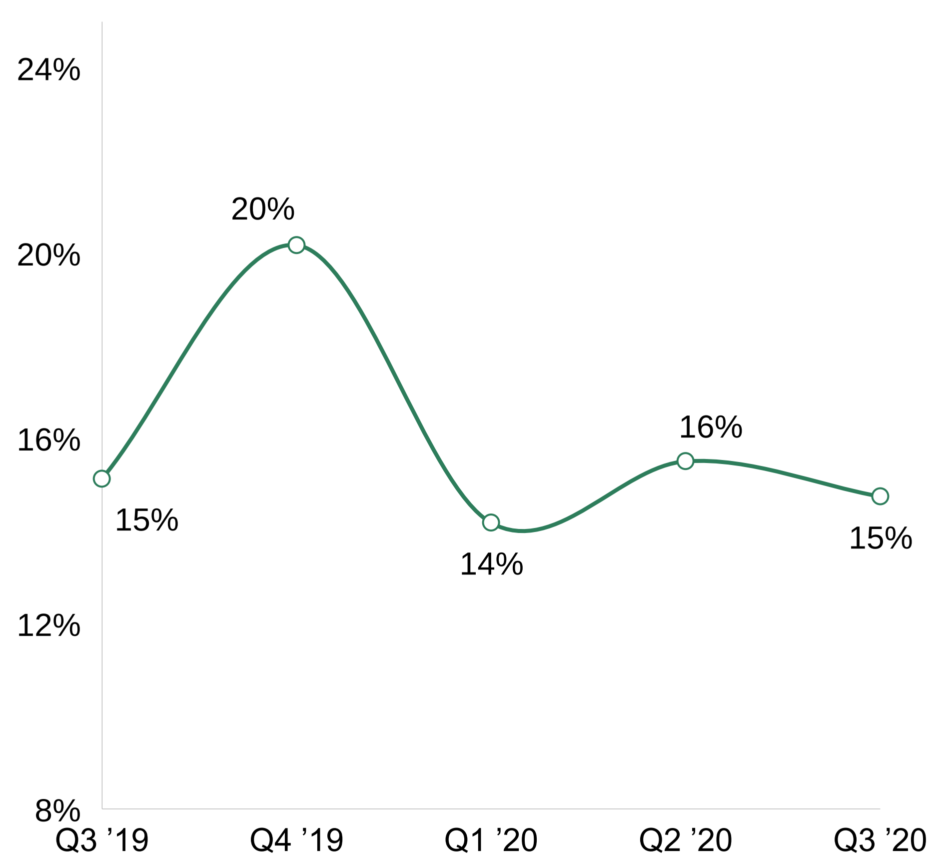
Source: Capital IQ, Annual & quarterly reports, Applied Value Analysis.

CAPEX of the Operator segment has stabilized around 17% of revenue from 2016 to LTM

Yearly CAPEX over sales development
2016 - LTM, %



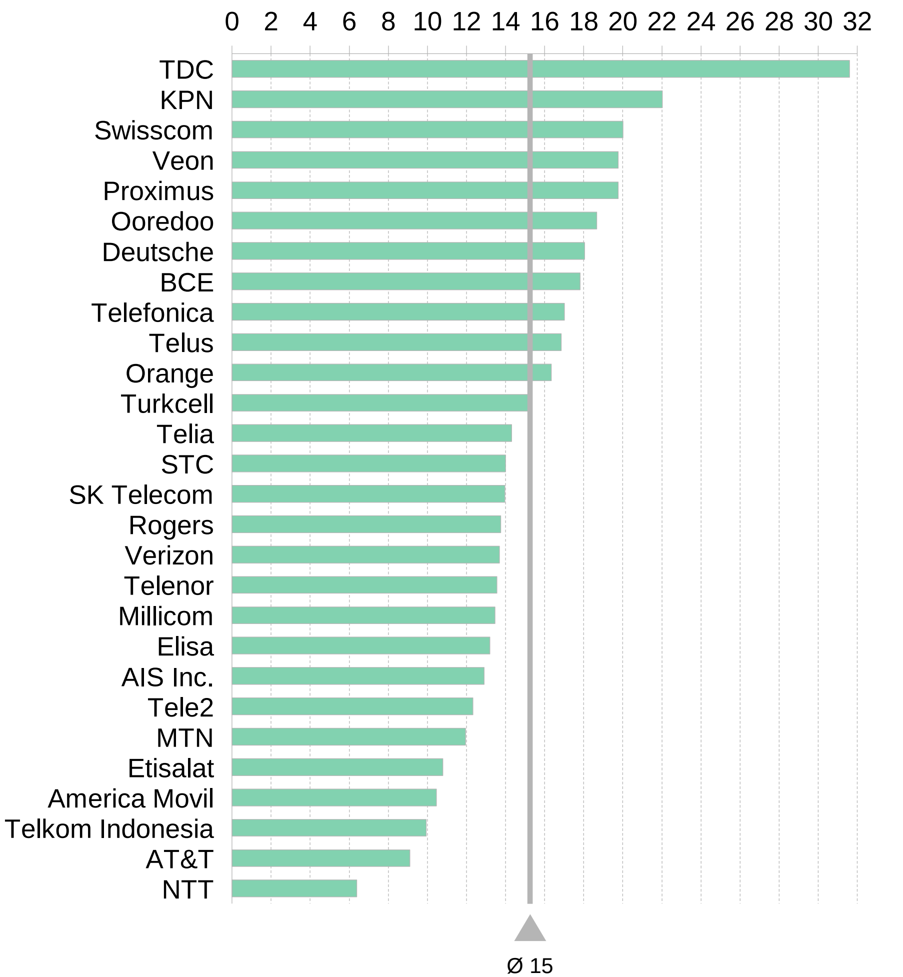
Quarterly CAPEX over sales development
Q3'19 – Q3'20, %



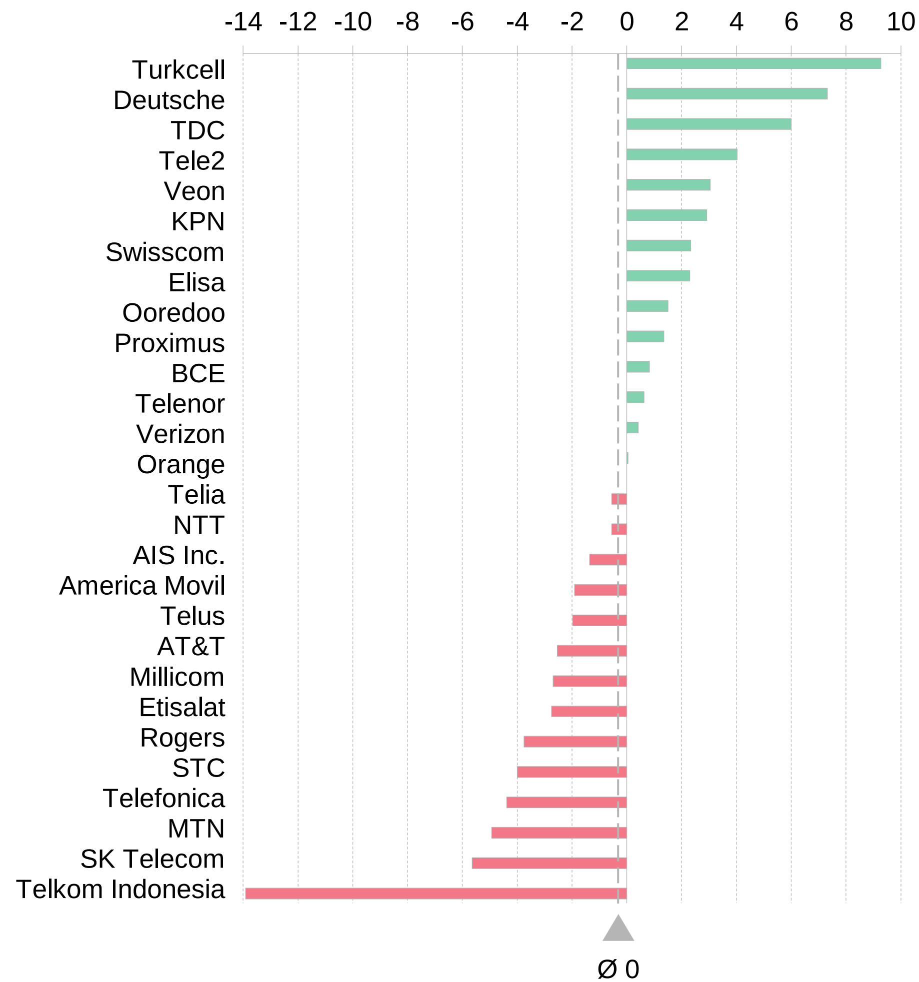
Note: The included companies differ from previous quarter.
Source: Capital IQ, Annual & quarterly reports, Applied Value Analysis.

Telkom Indonesia decreased their CAPEX over sales ratio the most by 14 p.p., followed by SK Telecom at 6 p.p.

CAPEX over sales by operator
Q3'20, %



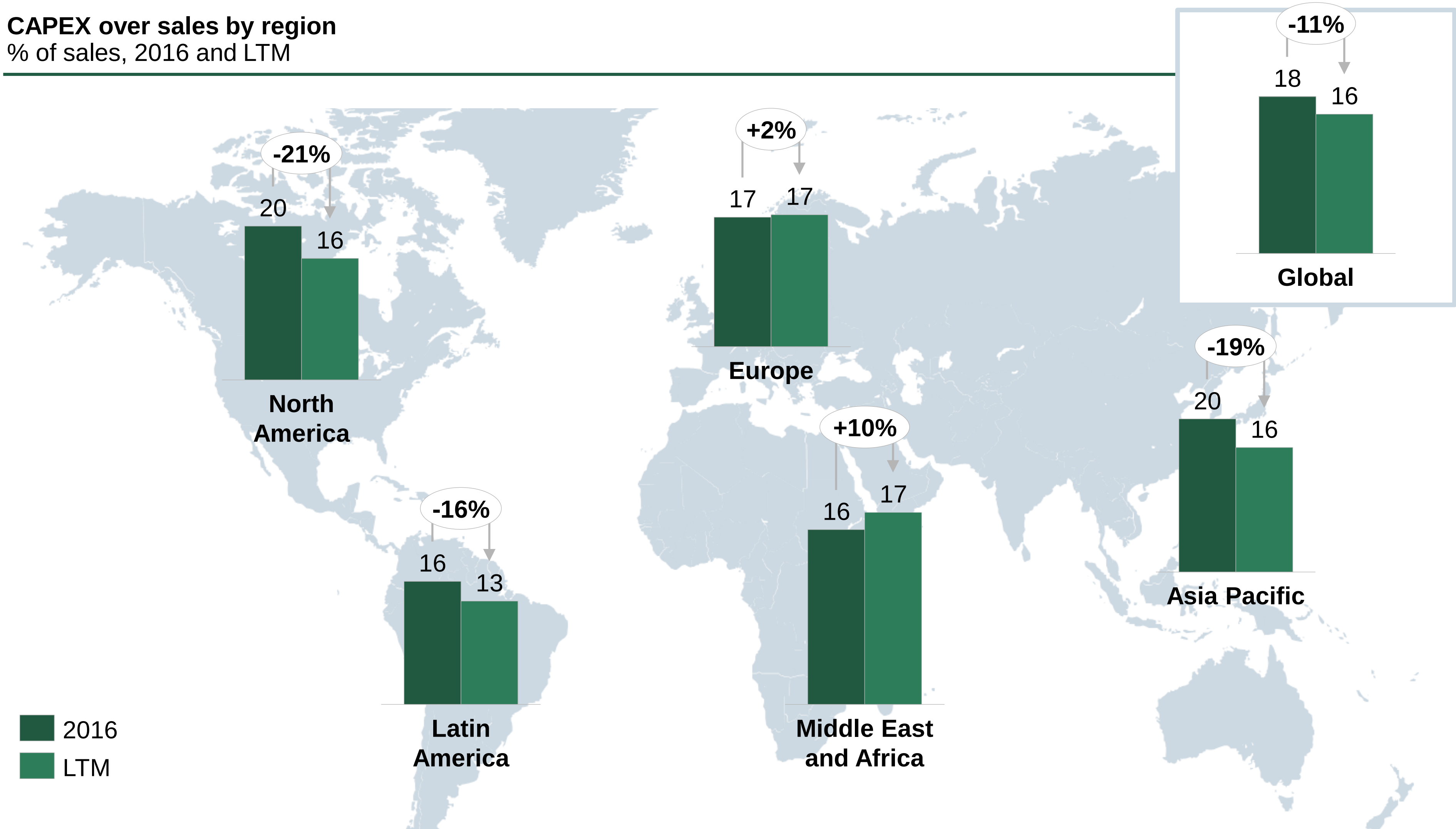
CAPEX over sales development by operator
Delta (Q3'20 vs. Q3'19), p.p.



Note: The included companies differ from previous quarter. MTN analysis based on H1'20 and H1'19 results.
Source: Capital IQ, Annual & quarterly reports, Applied Value Analysis.

With the deployment of 5G, CAPEX of European operators increased slightly when comparing LTM with 2016

CAPEX over sales by region
% of sales, 2016 and LTM



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

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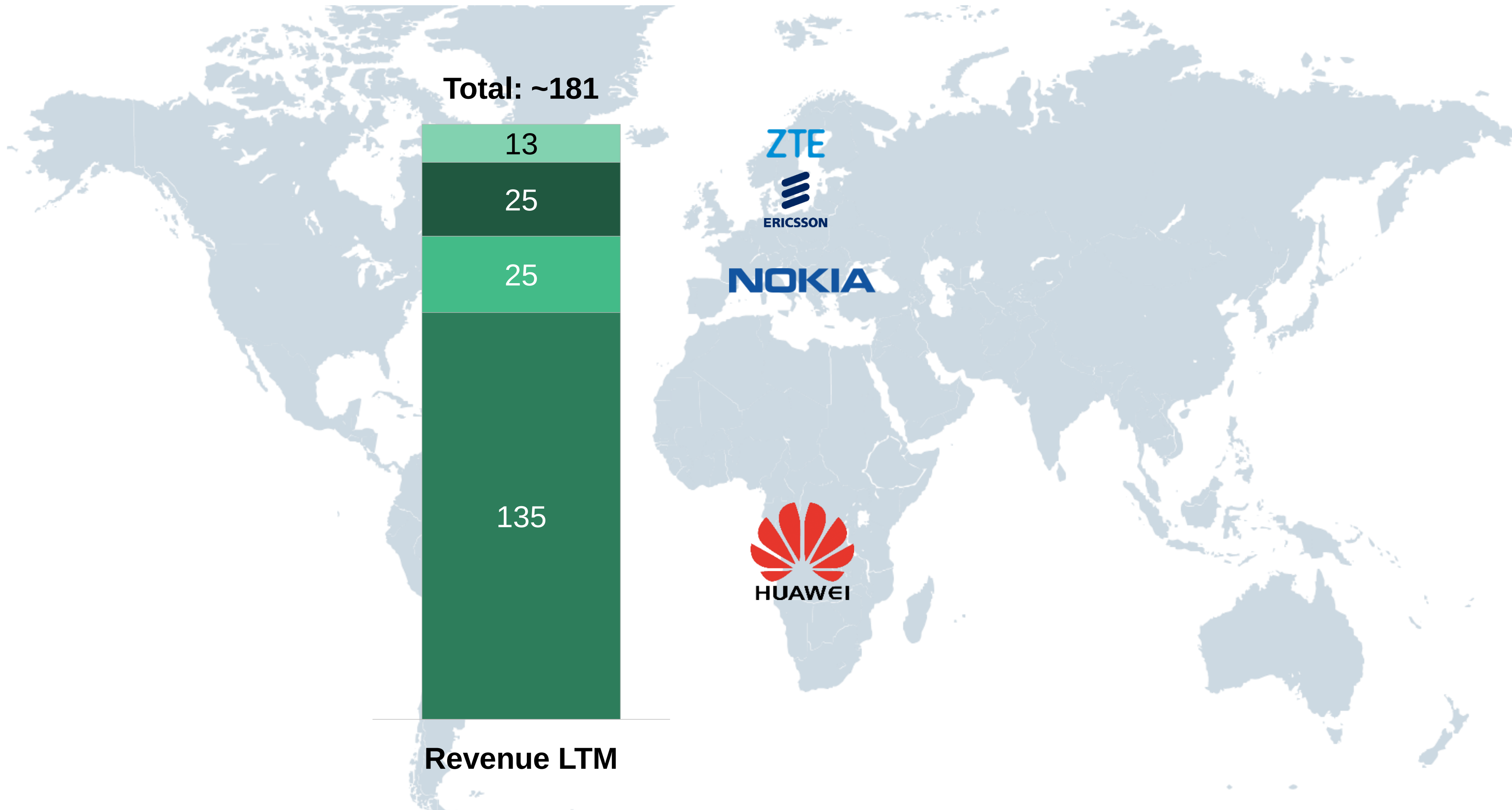
The Q3 2020 report includes the three major infrastructure players

Report overview
Revenue in BUSD



Note: Revenue based on group revenue
Source: Capital IQ, Annual & quarterly reports, Applied Value Analysis.

Key takeaways from the Infrastructure OEM segment

Key takeaways

Creating Shareholder Value

1. ROIC of ZTE decreased by 7 p.p. in the LTM, resulting from a sharp fall in CTR
2. By improving its NOPAT margin, ROIC of Nokia increased by 1.7 p.p. in the LTM despite the pandemic

Revenue Performance

1. Ericsson, Nokia and ZTE achieved ~10% QoQ revenue growth as global supply chain recovers
2. Huawei remained as the market leader of the segment; however, its growth margins has begun to narrow as a combination of sanctions take effect

Margin Performance

1. Ericsson outperformed the others this quarter with an EBITDA margin of 19%, followed by Nokia at 13%
2. NOPAT margin of Ericsson improved by 5 p.p., while that of Huawei experienced a 4-p.p. fall

Capital Efficiency

1. Fixed asset turnover ratio of the infrastructure vendors spreads from 2.1 (Nokia) to 8.0 (Huawei) in the LTM
2. ZTE falls behind with 112 of inventory days sales, which is at last 26 days longer than the others

Note: Comprehensive Huawei LTM data missing.

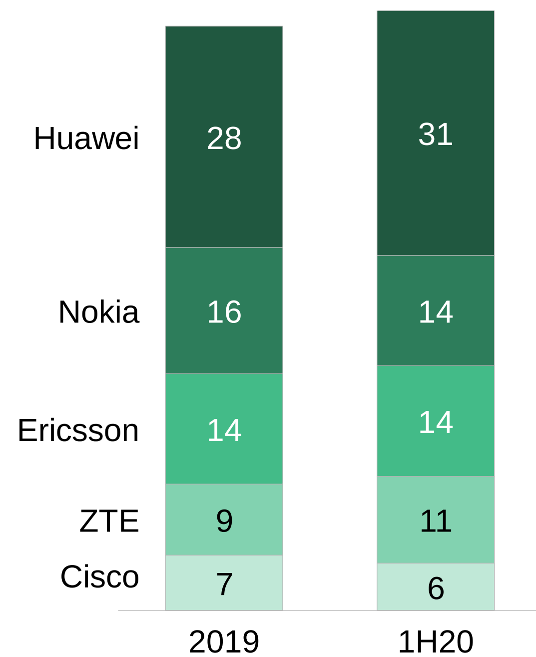
Events across the Infrastructure OEMs sector from the last 3 months

News and happenings for infrastructure OEMs

Sep-2020	**Samsung** signed a $6.65 billion 5G network deal with **Verizon**, the agreement primarily covers 5G RAN gears, and will extend through 2025. The deal with Samsung also speaks to Verizon's success in interoperability work among its network suppliers.
Sep-2020	**Microsoft** unveiled a new cloud platform that facilitates operators with 5G network deployment acceleration, cost reduction, and customized services sales to business clienteles. Companies including **Verizon**, **AT&A** and **Samsung** are either already using or selling the new platform.
Sep-2020	**Ericsson** acquires Cradlepoint, a US-based market leader in Wireless Edge WAN 4G and 5G enterprise solutions for $1.1 billion. Cradlepoint complements Ericsson's existing 5G enterprise portfolio including Dedicated Networks and a global IoT platform.
Sep-2020	**Hitachi America** is partnering with **Ericsson** to install and test a dedicated 5G network at its Silicon Valley Research Centre.
Sep-2020	**Nokia** wins 5G radio equipment contract from **British Telecom** following Britain's ban on Huawei. Nokia is now BT's largest 5G RAN supplier, accounting for 63% of BT's contracts, equivalent to 11,600 radio sites.
Sep-2020	Australian operator **Optus** announced its decision to employ **Nokia**'s management platform for its narrowband Internet of Things (NB-IoT) segment, the deal will target industrial applications in mining, utilities, and transportation.

Telcom Equipment Market Share by Revenue

%

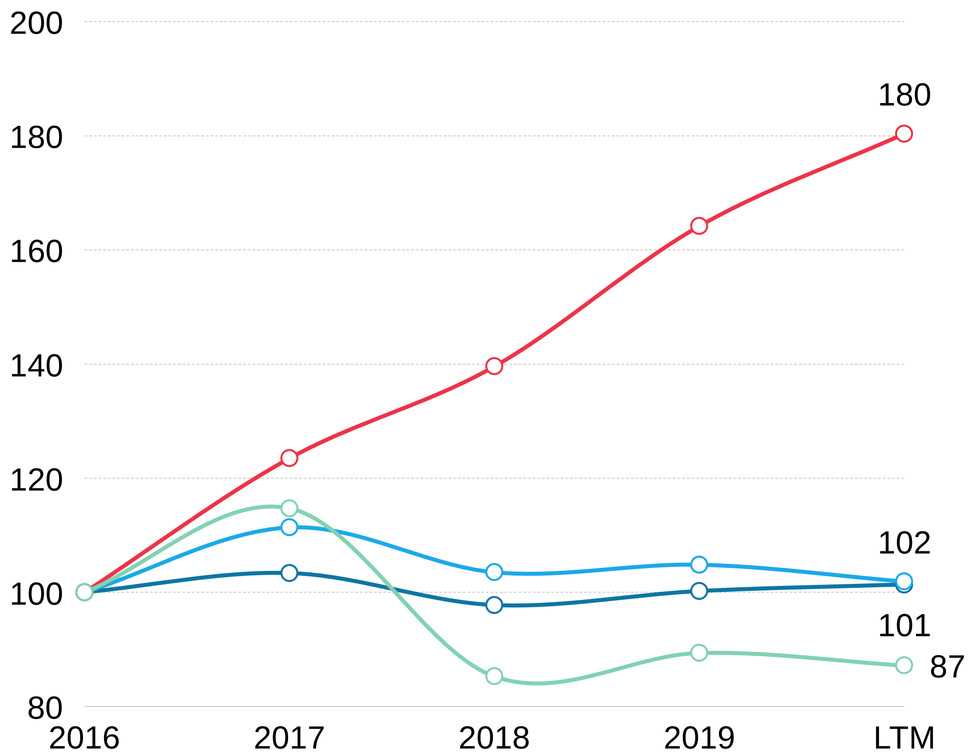


Following the 4% YoY decline during 1Q20, the overall telecom equipment market returned to growth in the second quarter, with particularly strong growth in mobile infrastructure and slower but positive growth for Optical Transport and SP Routers & CES

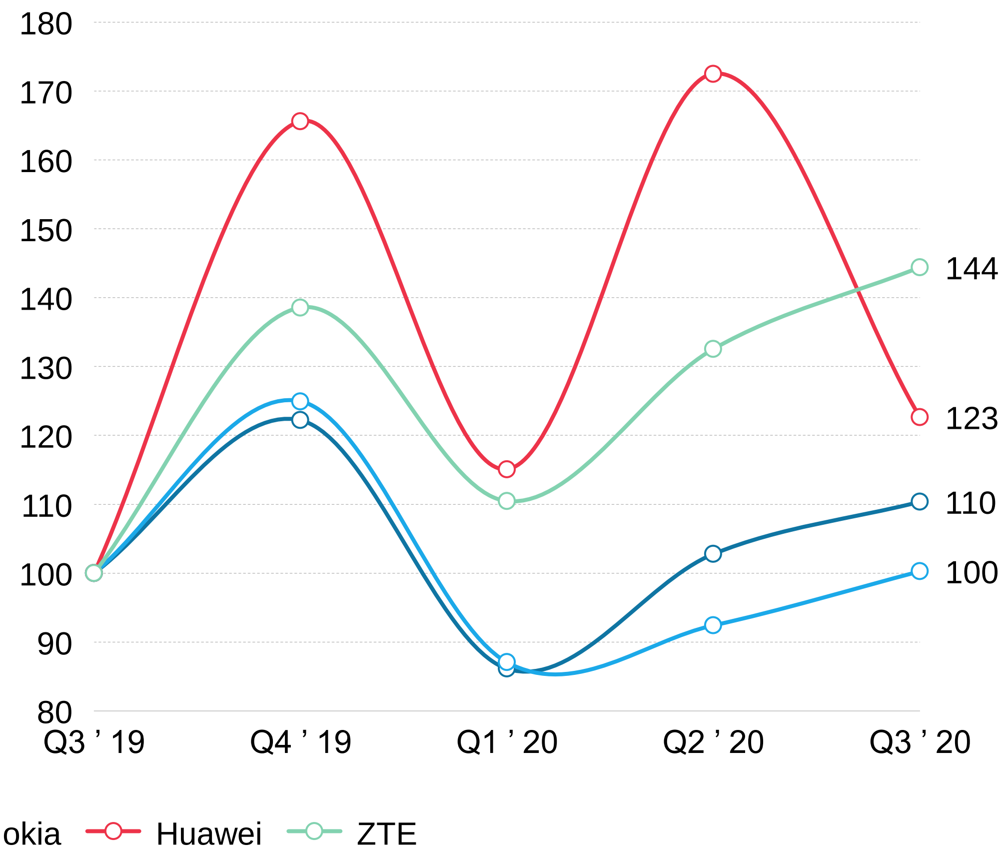
Source: Press & News, Statista, Dell'oro Group, Applied Value Analysis

While its peers have experiencedsteady recovery from the pandemic, Huawei witnessed a revenue downturn in Q3'20 as sanctions took effect

Indexed Yearly revenues
2016 to LTM (index 2016=100)



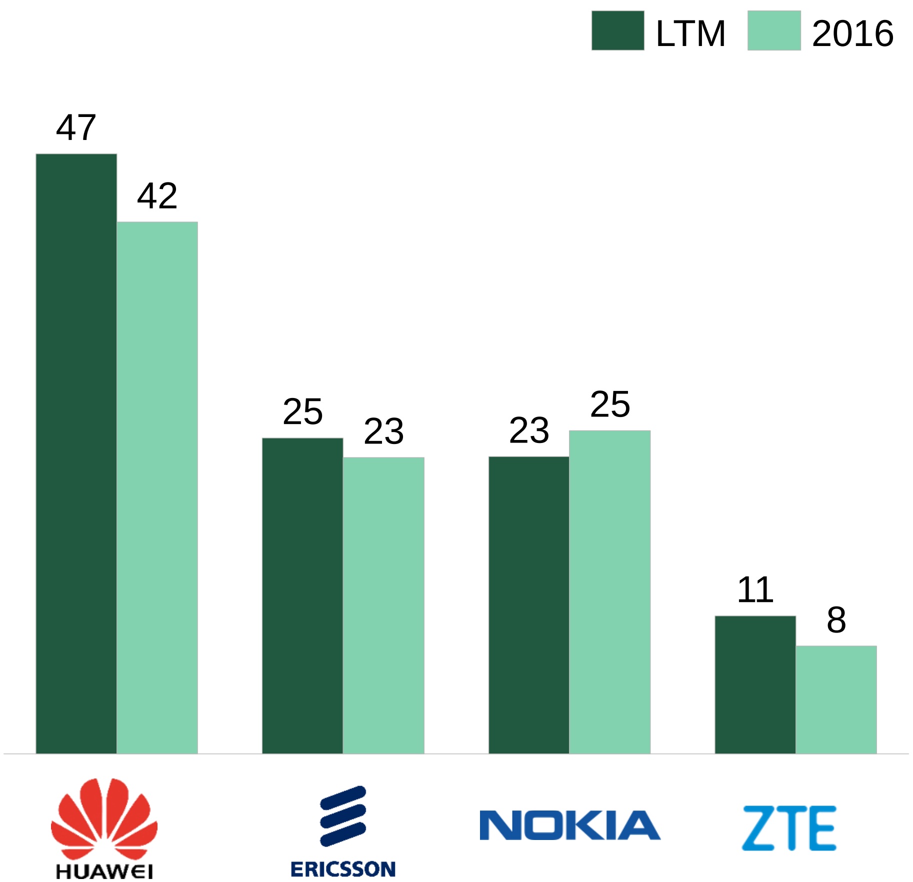
Indexed Quarterly revenues
Q3'19 – Q3'20 (index Q2'19=100)



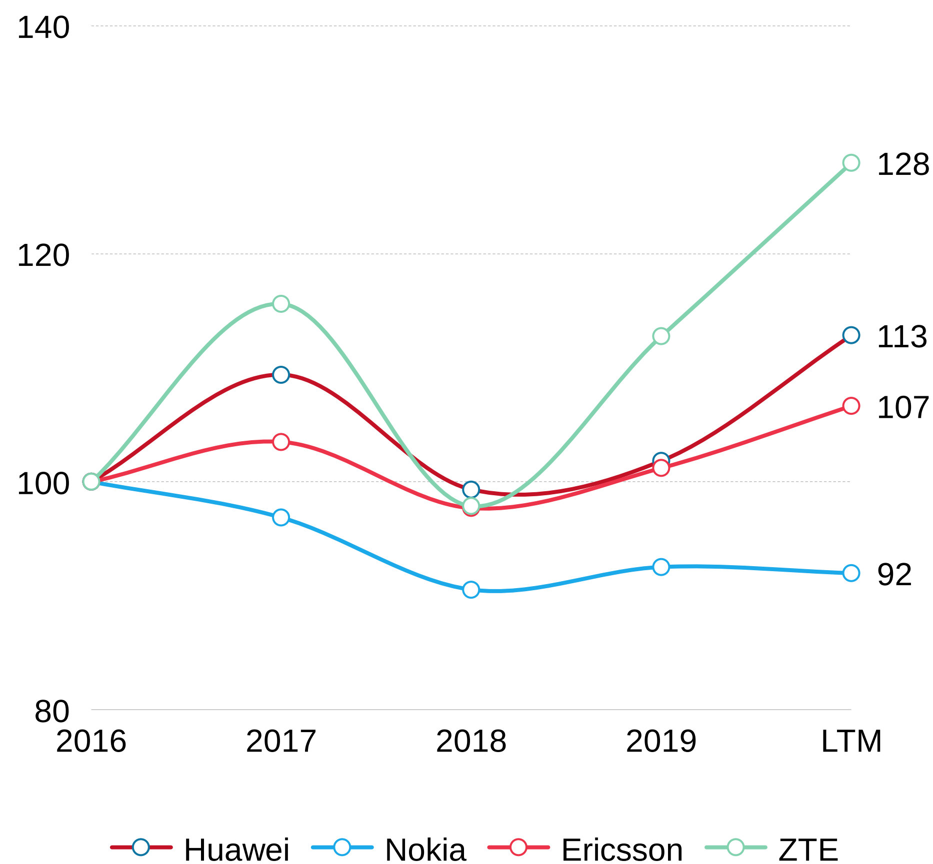
Notes: Fiscal years are used in the yearly analysis. Huawei reports annually.
Source: Capital IQ, Annual & quarterly reports, Applied Value Analysis.

Segment revenue of ZTE grew by 28% from 2016 to LTM while Nokia struggled to expand sales despite a burgeoning market

Segment revenues
2016 - LTM, BUSD

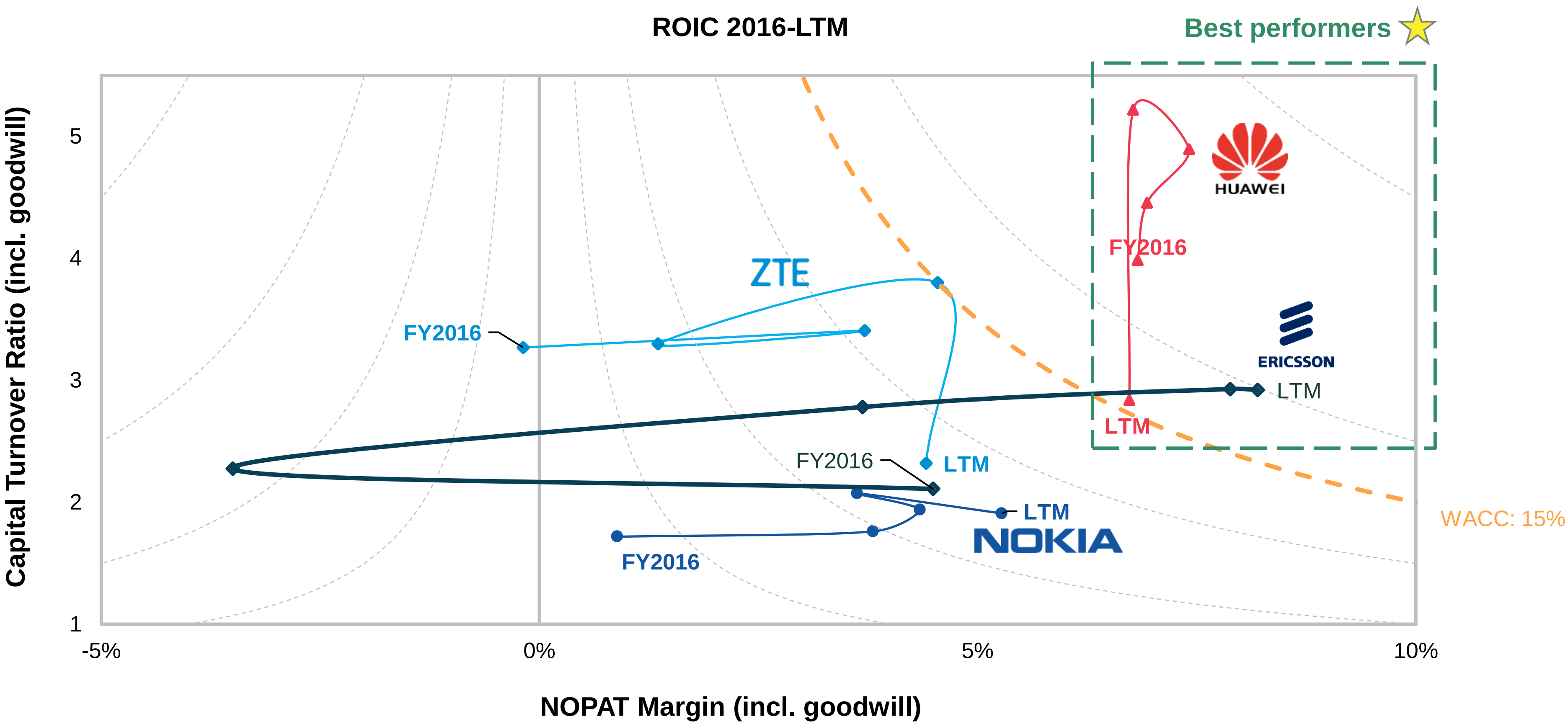


Indexed yearly segment revenues
2016 – LTM (index 2016=100)



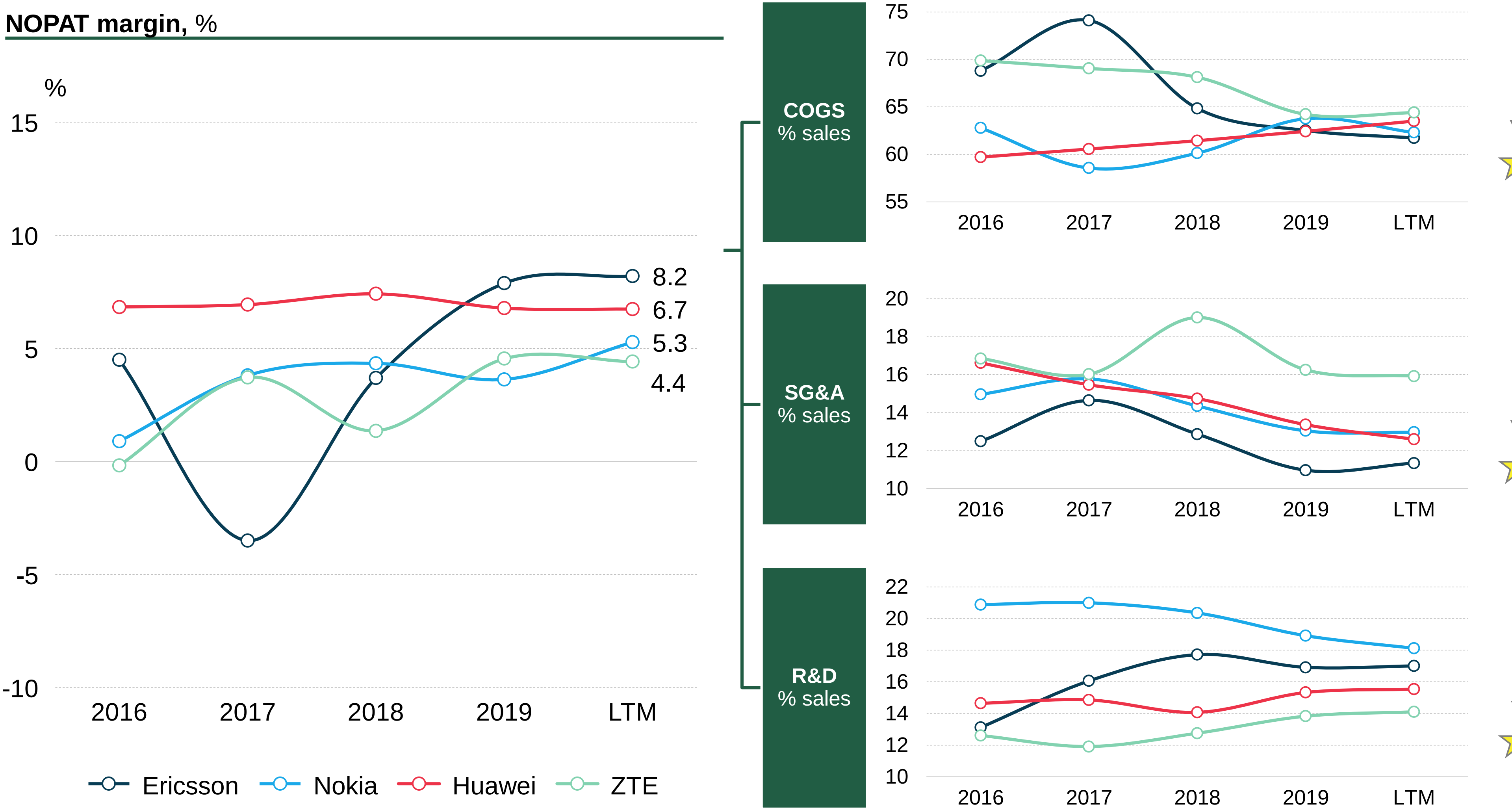
Note: Included segments per company: Huawei (Carrier), Ericsson (Networks, Digital Services, Managed Services), Nokia (Networks, Software), ZTE (Operator Network)
Source: Capital IQ, Annual & quarterly reports, Applied Value Analysis.

Ericsson continues to lead the group with a ROIC of 19.8%, ZTE and Huawei experienced steep decreases of 16.3 p.p. and 7 p.p. respectively



Note: Fiscal years are used in the yearly analysis. Huawei reports annually.
Source: Capital IQ, Annual & quarterly reports, Applied Value Analysis.

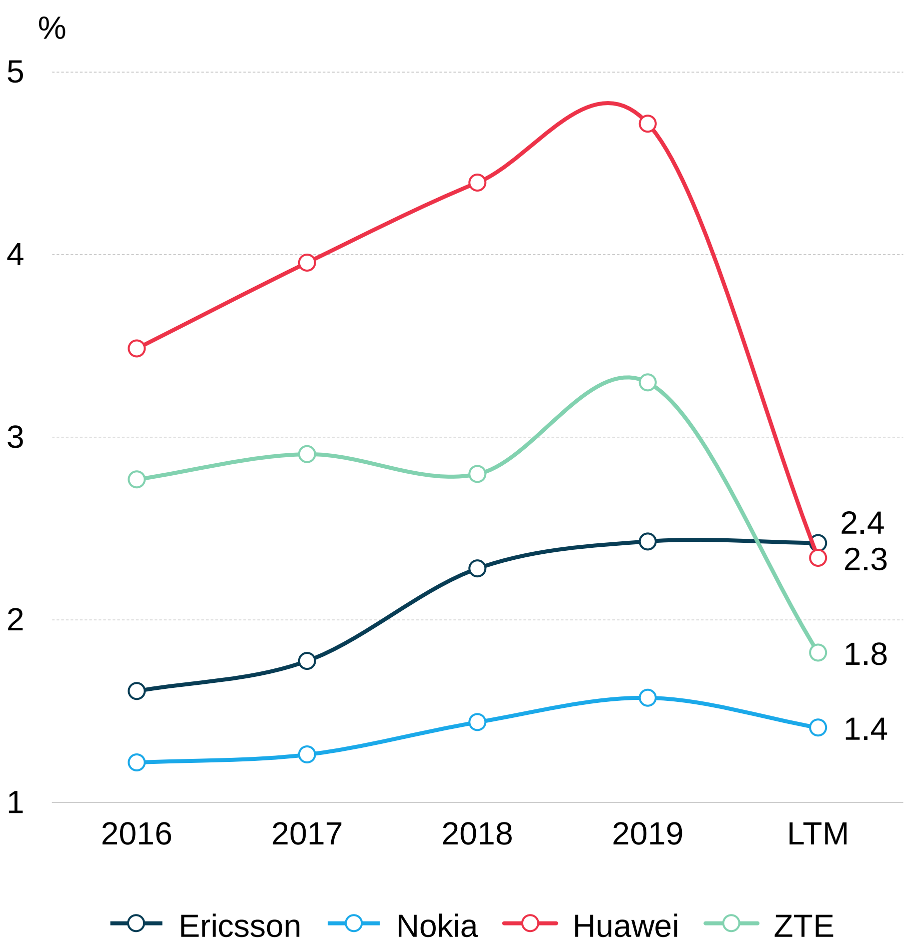
COGS ratios of infrastructure vendors converged to ~63%, NOPAT margin of ZTE fell behind due to relatively high SG&A ratio

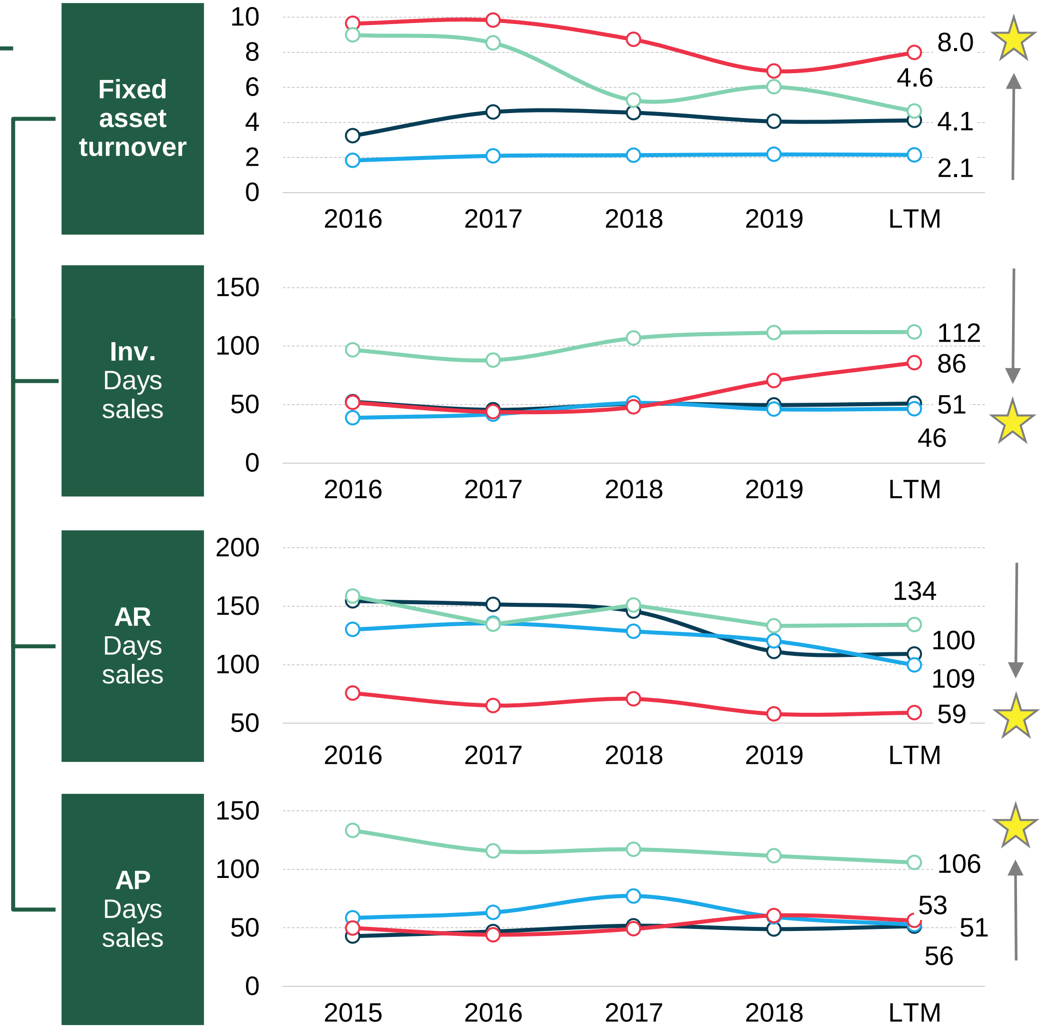


Notes: Fiscal years are used in the yearly analysis. Huawei reports annually.
Source: Capital IQ, Annual & quarterly reports, Applied Value Analysis.

DPO of ZTE is around double the time of its peers, inventory turnover of Huawei has decelerated since 2018 when restrictions were initially placed

Capital turnover ratio (CTR)



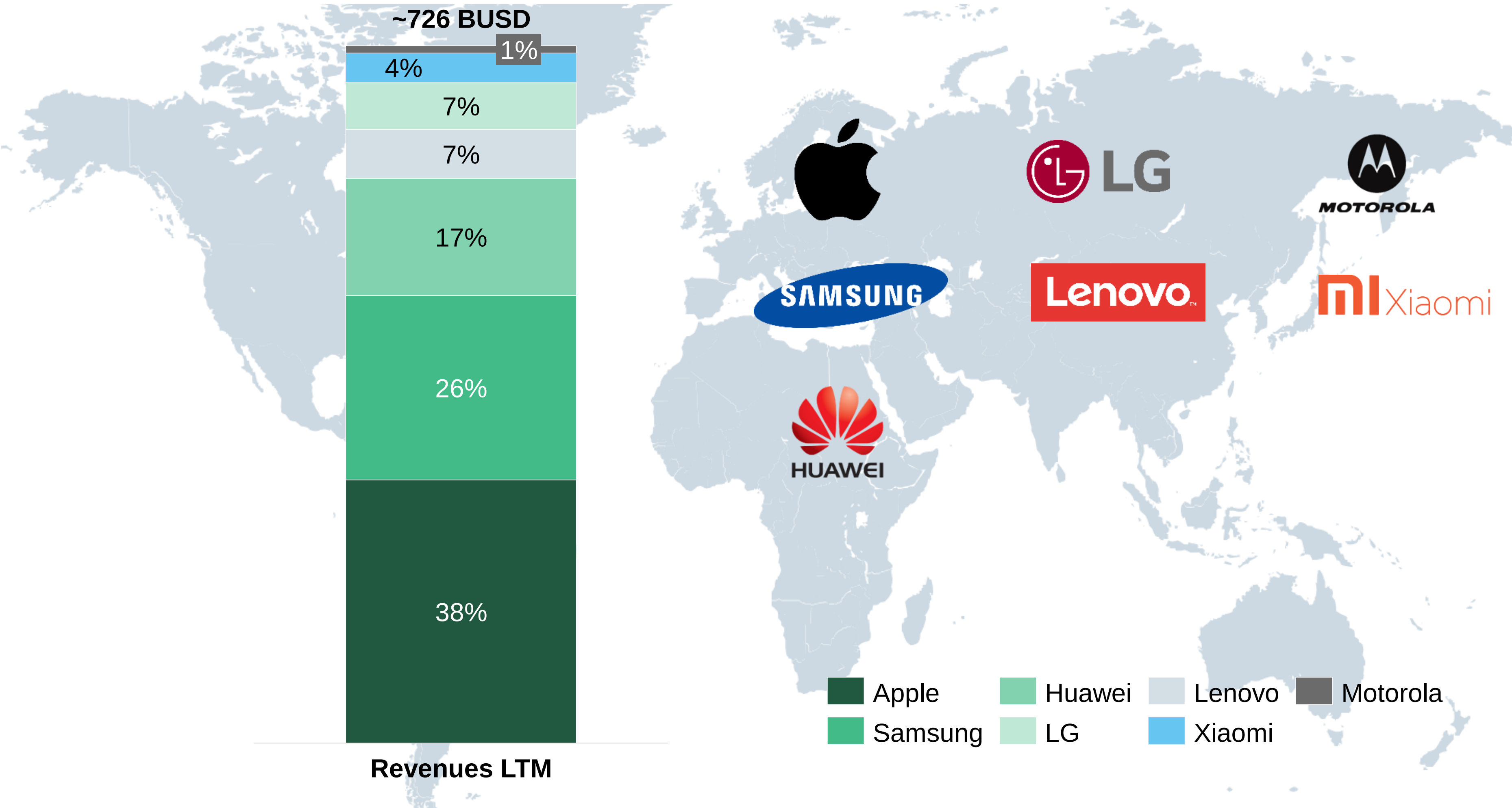


Notes: Fiscal years are used in the yearly analysis. Huawei 2019 & LTM based on estimates.
Source: Capital IQ, Annual & quarterly reports, Applied Value Analysis.

Contents

The Q3 2020 report includes seven major device manufacturers

Report overview
Revenue in BUSD, LTM



Note: Revenue based on group revenue
Source: Capital IQ, Annual & quarterly reports, Applied Value Analysis.

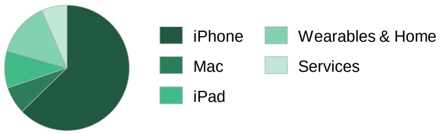
Key takeaways from the Device OEM segment

Key takeaways

Creating Shareholder Value	1. All OEMs other than Samsung and LG managed to achieve a ROIC above the industry average WACC of 10% 2. Only Apple and Lenovo improved their ROIC in the LTM, of which Lenovo has been consistently improving its ROIC since 2016
Revenue Performance	1. Segment quarterly revenue of major Device OEMs have returned to pre-pandemic level as demand of smartphones, wearables and tablets all saw substantive QoQ expansion 2. Despite achieving 9.9% YoY growth, the growth margin of Huawei has narrowed 32 p.p. comparing to the previous quarter
Margin Performance	1. Apple, Samsung and Motorola are the most profitable, with EBITDA margins of over 25% in Q3 ‘20 2. NOPAT margins of the Device OEMs remain unscathed by the pandemic, in particular, Lenovo managed to improve its margin by 0.6 p.p. in the LTM
Capital Efficiency	1. CTR of Huawei fell by 2.5 from 2019 to LTM due to slow down in inventory turnover and shorter accounts payable period 2. Most Device OEMs experienced ~10 days of longer inventory turnover period in the LTM comparing to 2019

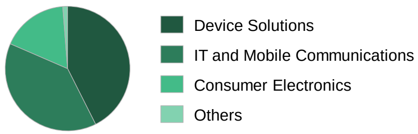
Device OEMs' business segments, revenue split and descriptions

Company | **Business segments and revenue share in 2019, %** | **Description**



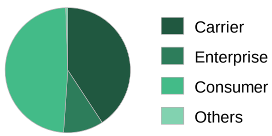
- iPhone: Mobile Phones
- Services: iTunes Store, iCloud, Apple Pay, other services
- Mac: Laptops & Personal Computers
- iPad: Tablets
- Wearables & Home: Apple Watch, Apple branded accessories for Apple products

SAMSUNG



- Information Technology & Mobile Communications: Mobile Phones, Communication systems and computers
- Device Solutions: Semiconductor Business and display panels
- Consumer Electronics: TVs, monitors, printers, air conditioners and refrigerators
- Harman: Infotainment, connected solutions for automakers, and consumers

HUAWEI

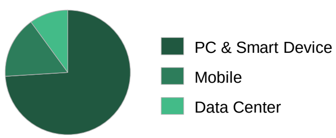


- Carrier: Building telecommunications networks and services
- Enterprise: Equipment, software and services to enterprise customers
- Consumer: Manufacturing of electronic communication services (e.g. phones)
- Others: Communication services not applicable to above descriptions

LG

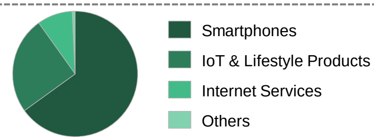
- Home Entertainment: TV, Monitors, PCs, Security Devices, Audio/Video
- Home Appliance & Air solution: Kitchen appliances, Vacuums, displays
- Mobile Communications: Mobile communications, handsets
- VCS: Vehicle components and others
- Business solutions/B2B: Information displays, solar modules and others

Lenovo



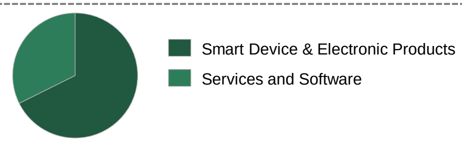
- PC & Smart Device: Commercial and Consumer Computers
- Mobile: Mobile devices, Smartphone, Tablet
- Data Center: Server Business, System X

Xiaomi



- Smartphones: Mobile devices, Smartphone, Tablet
- IoT & Lifestyle products: Smart TVs, scoters, vacuum cleaners, cameras, etc.
- Internet Services: Preloaded apps, services and advertisements
- Other: Miscellaneous additional services and products

MOTOROLA

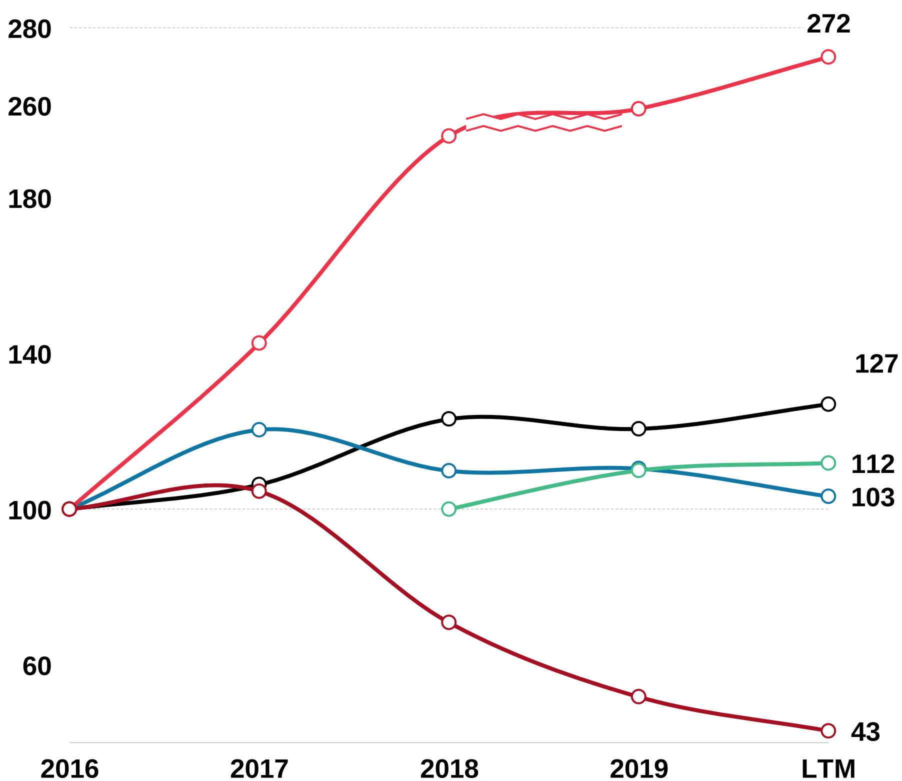


- Smart Device & Electronic Product: Smartphone, land mobile radio
- ("LMR") handsets, infrastructure and accessories
- Services and Software: Public safety and enterprise command center software suite, unified communications applications, and video software solutions

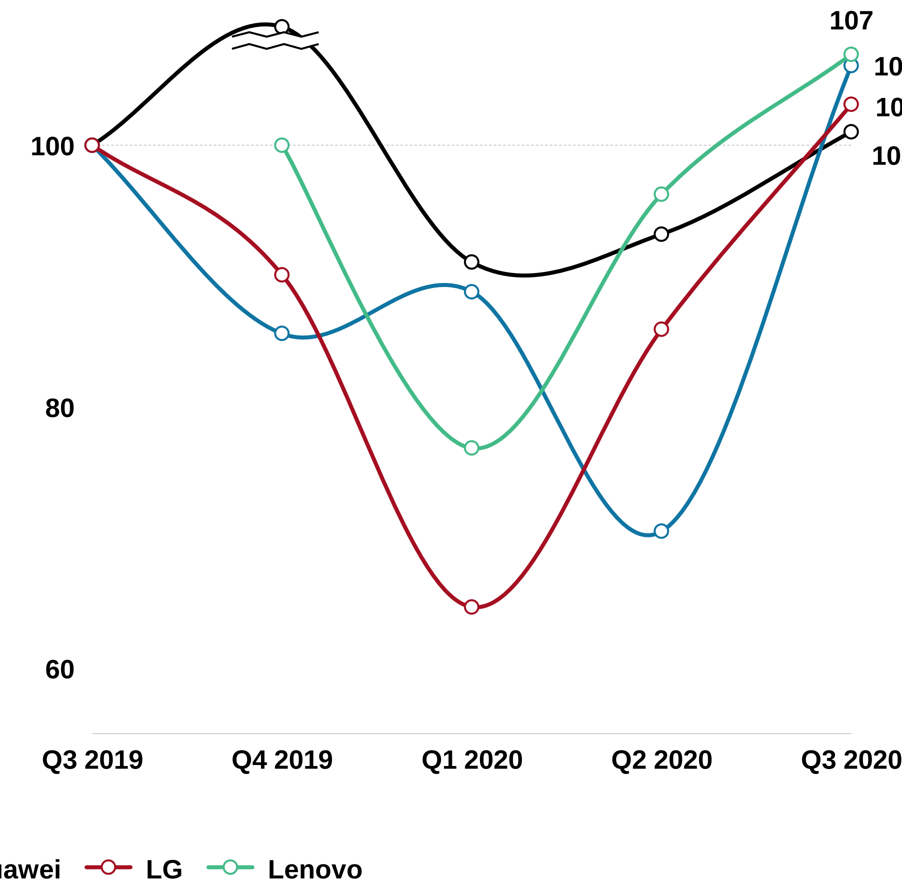
Source: Capital IQ, Annual & quarterly reports, Applied Value Analysis.

Eased lockdowns and streamlined supply chains restored quarterly revenue of the device segment to pre-pandemic level

Segment Yearly revenue development
2016 - LTM (index 2016=100)



Segment Quarterly revenue development
Q2'19 – Q2'20 (index Q2'19=100)



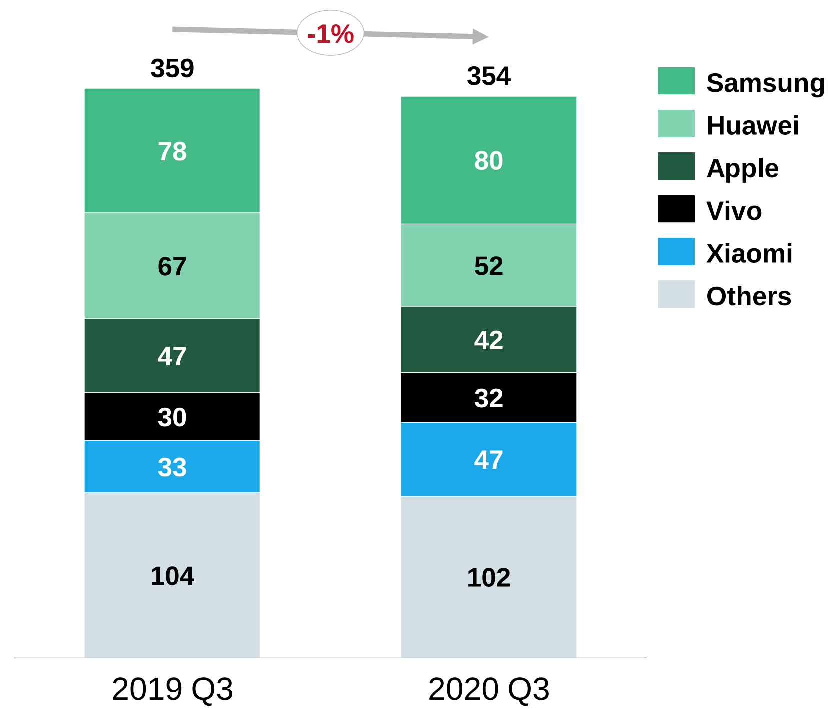
Note: Included segments per company: Huawei (Consumer business), Samsung (Information technology and mobile communication), LG (Mobile communication), Lenovo (Intelligent device), Apple (All segments)
Source: CapitalIQ, Annual/Quarterly/Half Year Reports

Samsung and Xiaomi worked aggressively to seize the market discharged from Huawei - Xiaomi's shipment in Europe grew by 88%

News and happenings for Device OEMs

Aug-2020	The European Union has launched a full-scale antitrust investigation into **Google**'s $2.1 billion deal to acquire wearables maker **Fitbit**, expressing concerns that it would further consolidate Google's dominance in the online advertising space.
Sep-2020	The U.S. demand that chip foundries using American-sourced technology to obtain a license to ship chips to **Huawei**. **TSMC** was no longer allowed to deliver chips to Huawei after 15th Sep, undercutting Huawei's ability to power its flagship handsets of the year.
Sep-2020	**Google** partners with **Lenovo** on videoconferencing hardware with the launch of its new Google Meet Series One.
Oct-2020	By adopting an aggressive online channel strategy and benefiting from opportunities arising out of anti-China sentiments in India, **Samsung** reached its highest market share in India since 2018.
Oct-2020	**Vivo** is expanding its operations in Europe with a series of mid-range smartphones and accessories, entering six new markets including the UK, France, Germany, Italy, Poland and Spain. Another Chinese smartphone maker **Oppo**, is also seizing on the headwinds facing Huawei to pursue rapid growth in Europe.
Oct-2020	Smartphone shipments in India hit a record high of 50 million units in Q3, Xiaomi continued to lead with a market share of 26.1%.

Global smartphone shipments
Million units



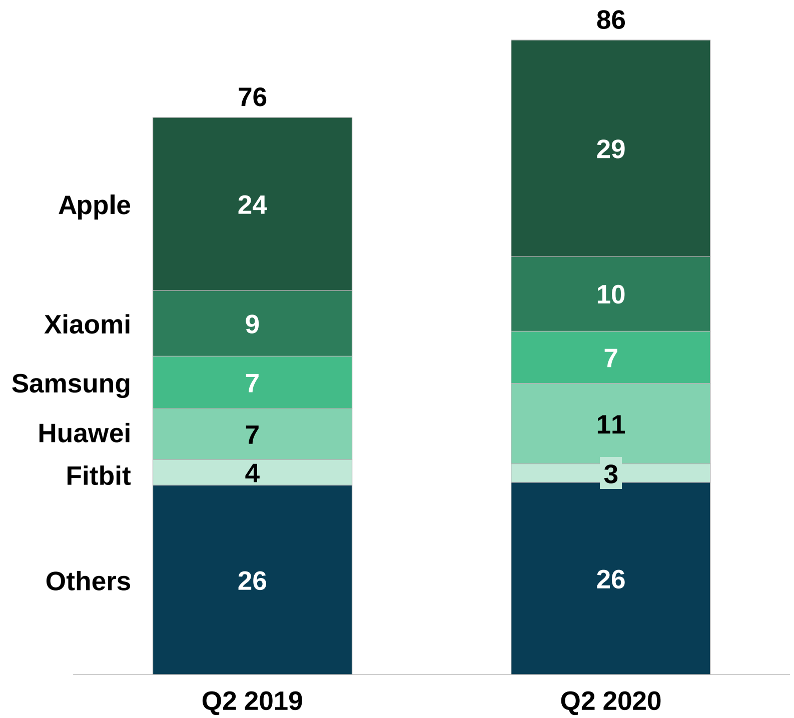
The global smartphone market declined 1% YoY but grew 22% QoQ to reach 354 million units in Q3'20. Samsung regained the leader position from Huawei, and Xiaomi rose to the third place for the first time, overtaking Apple, which had no flagship phone launch in Q3

.

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

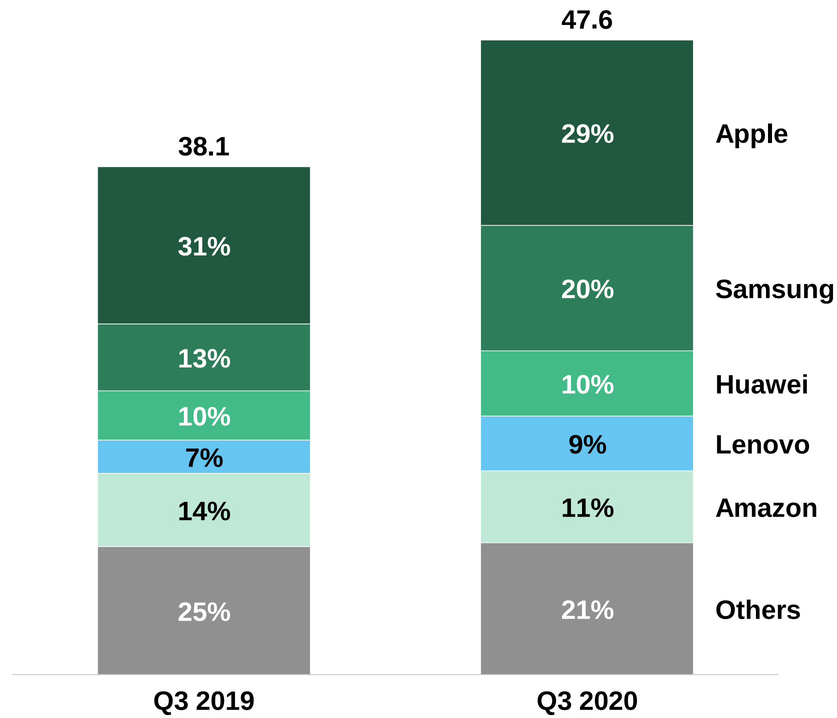
In Q3'20, the tablet market grew by 92.7% QoQ, Apple continues to lead in this segment but its growth is dimmed by its peers

Global wearables shipments
Million units



The market for wearable devices grew by 13.1% YoY to 86.2 million units during the second quarter of 2020, thanks to strong demand for hearables and continued interest in tracking health metrics

Global tablet shipments
Million units

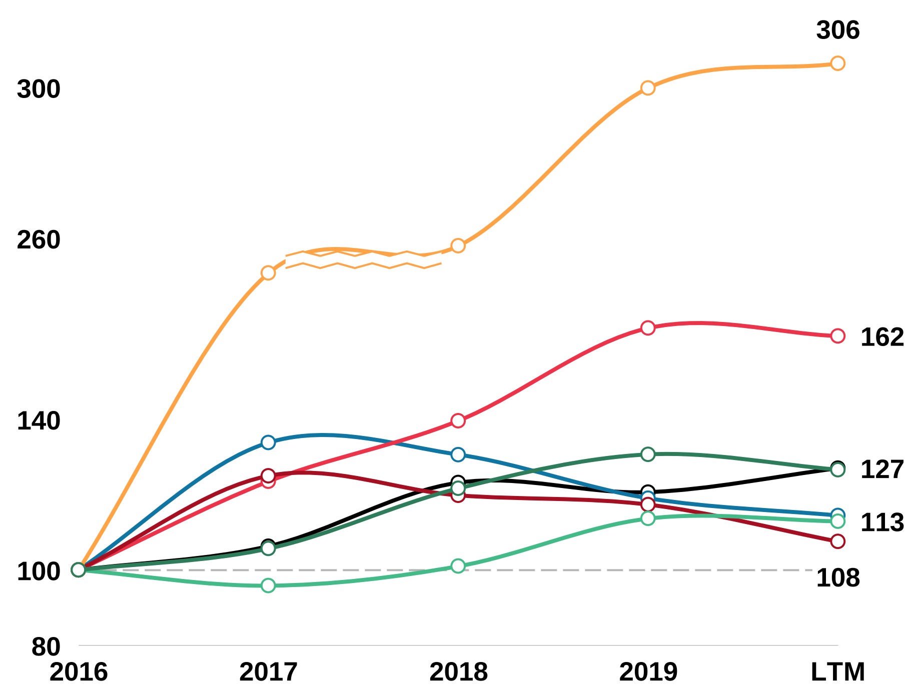


The global tablet market has seen a 24.9% YoY growth in Q3'20, mainly driven by the demand for affordable access to basic computing and larger screens to facilitate remote working and learning

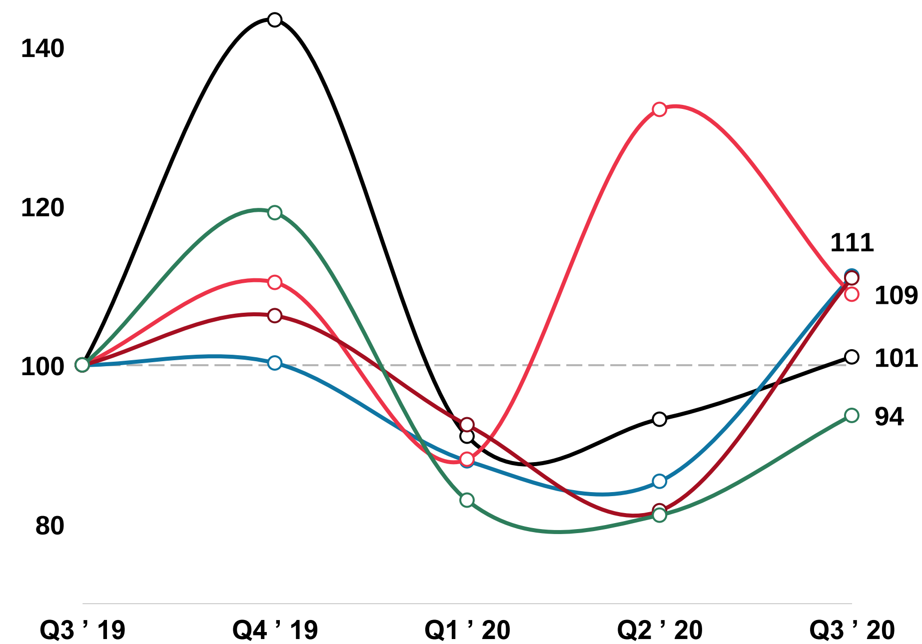
Source: IDC, Counterpoint Research and Applied Value Analysis.

Revenue of device OEMs returns to pre-COVID levels, meanwhile Huawei's growth was dampened by sanctions

Group Yearly revenue development
2016 - LTM (index 2016=100)



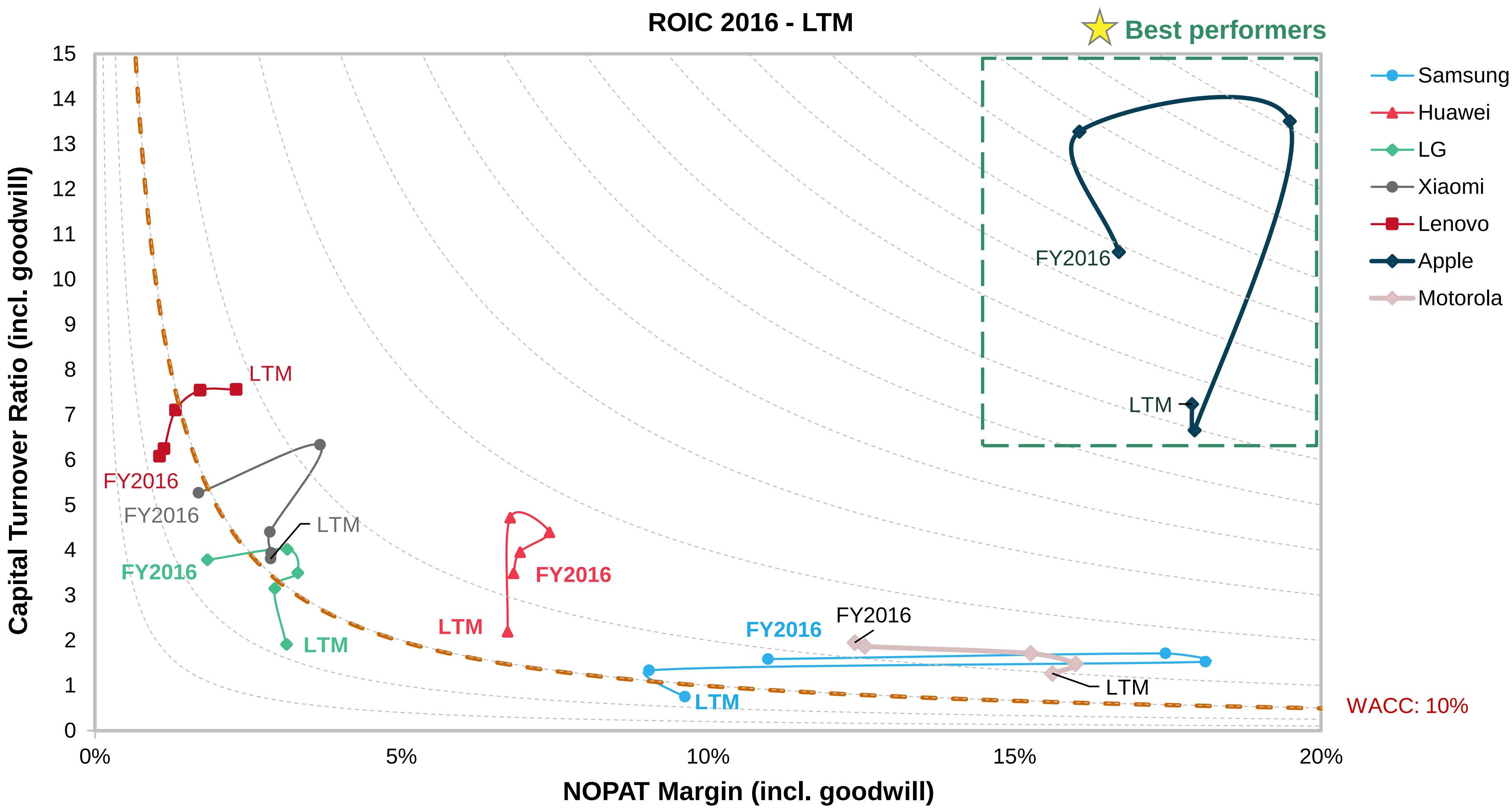
Group Quarterly revenue development
Q2'19 – Q2'20 (index Q2'19=100)



Apple Huawei Lenovo Motorola
Samsung LG Xiaomi

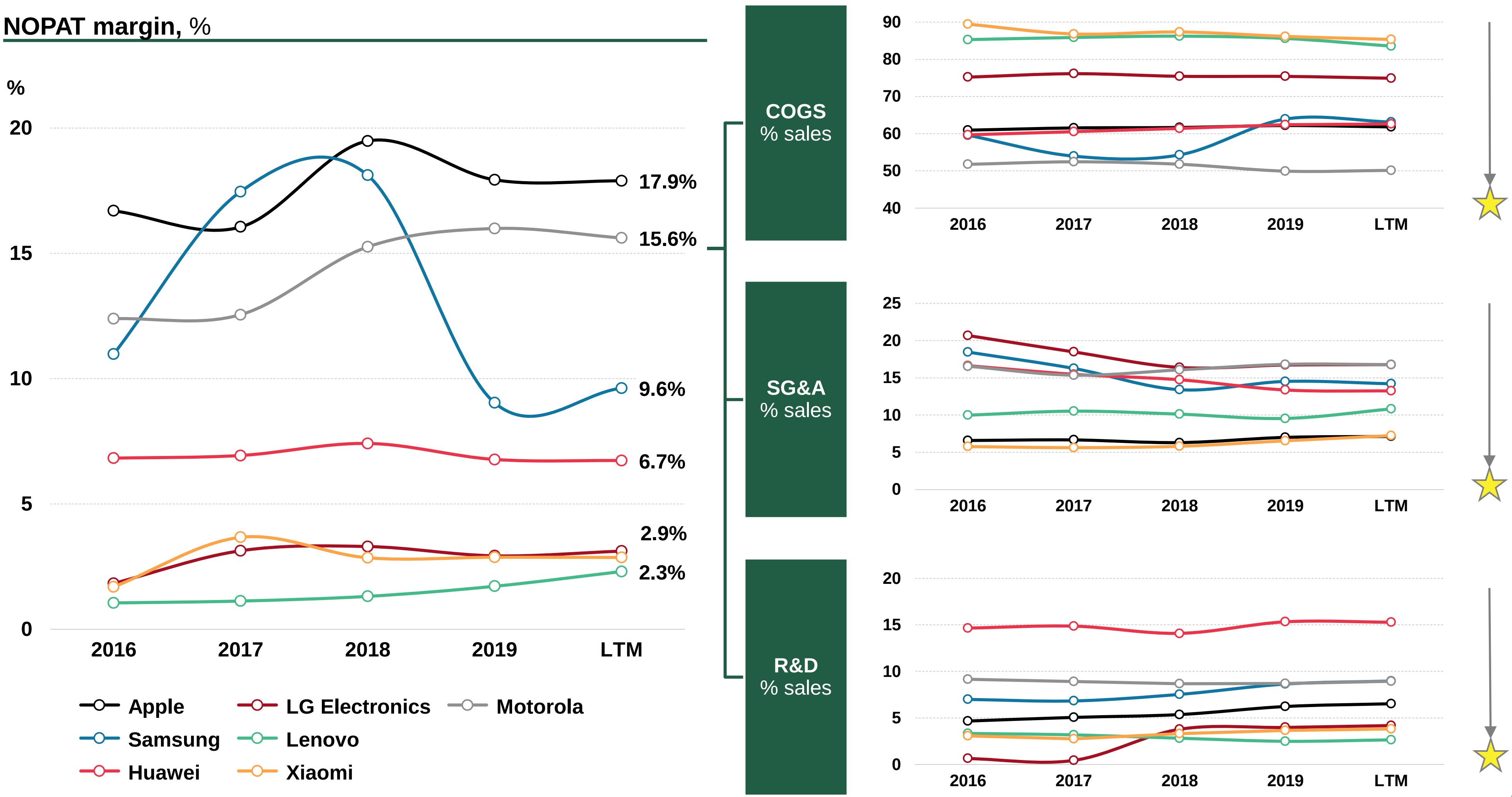
Source: Capital IQ, Annual & quarterly reports, Applied Value Analysis.

ROIC of Samsung, LG and Xiaomi have declined for three consecutive years, with Samsung declining the most at 22.6 p.p.



Notes: Fiscal years are used in the yearly analysis. Huawei 2019 & LTM based on estimates.
Source: Capital IQ, Annual & quarterly reports, Applied Value Analysis.

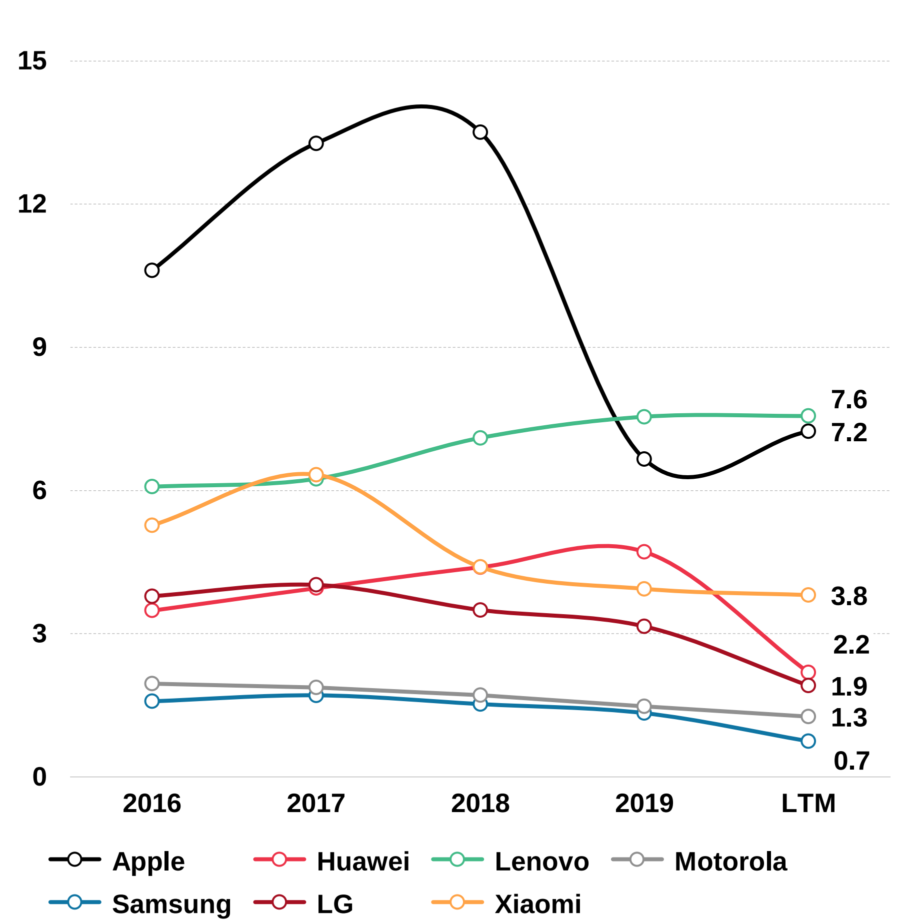
Apple holds the largest NOPAT margin of 17.9% among the device OEMs, followed by Motorola at 15.6%



Notes: Fiscal years are used in the yearly analysis. Huawei 2019 & LTM based on estimates.
Source: Capital IQ, Annual & quarterly reports, Applied Value Analysis.

CTR of Samsung consistently lagged behind its peers from 2016 to LTM because of a notably short DPO of 15 days

Capital turnover ratio (CTR)

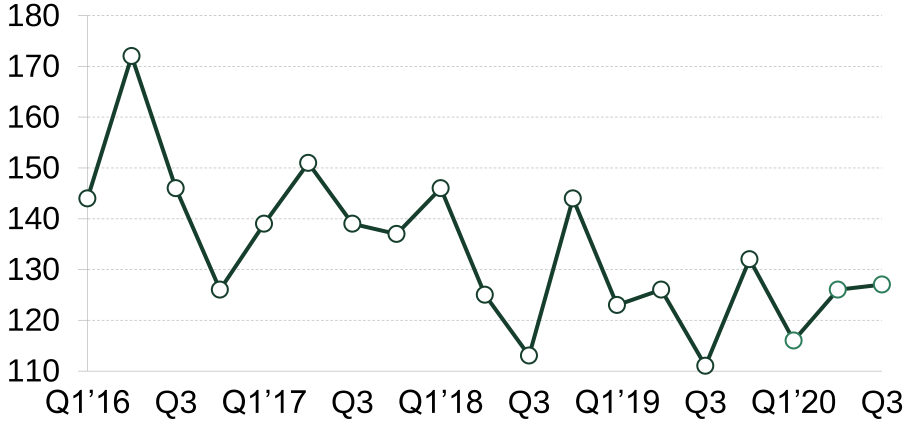


Notes: Fiscal years are used in the yearly analysis. Huawei 2019 & LTM based on estimates.
Source: Capital IQ, Annual & quarterly reports, Applied Value Analysis.

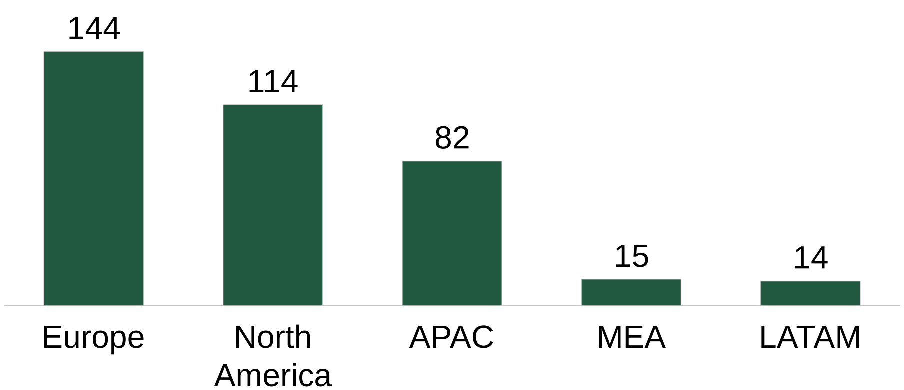
Contents

The value of announced telecom M&A transactions reached a record high of ~$134 billion in Q3’20 with a number of mega deals

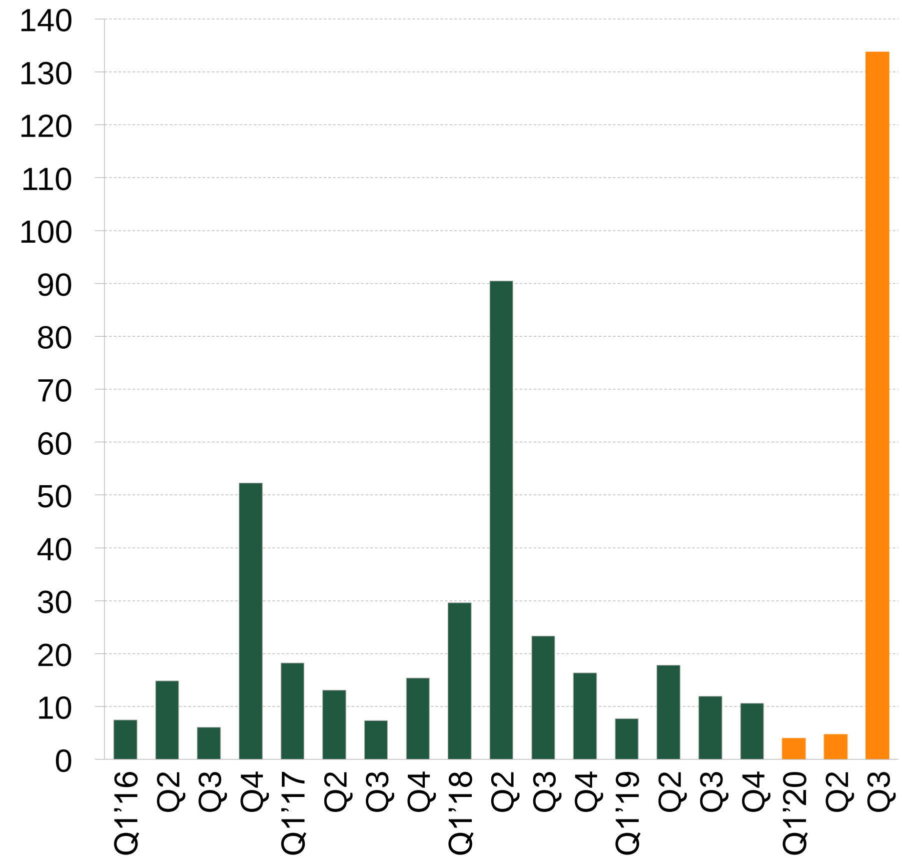
Quarterly M&A Transaction Count
Q1’16 - Q3’20



M&A Transaction Count by Region
Q1’20 – Q3’20



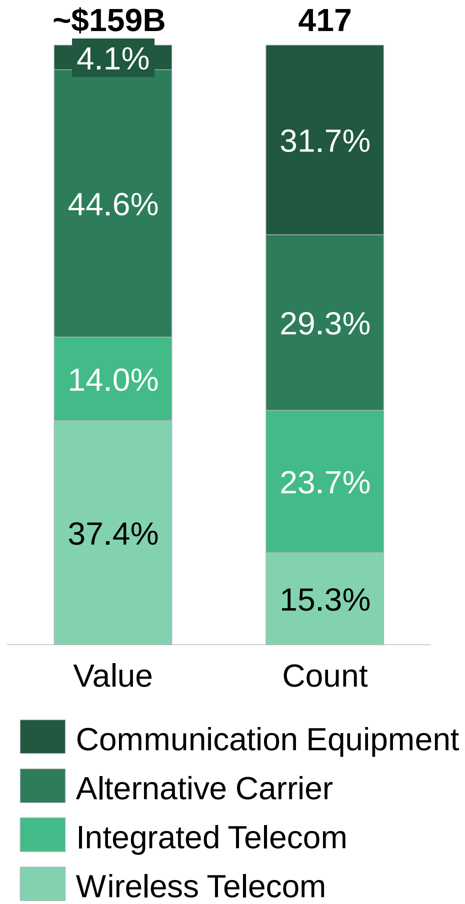
Quarterly M&A Transaction Value
BUSD, Q1’16 - Q3’20



Note: Transactions refers to announced deals
Source: CapitalIQ

The alternative carrier segment was the most active in M&A during the first three quarters of 2020, with an average of $579M per transaction

M&A Target Value and Count by Sector
%, Q1'20 –Q3'20



Top 5 M&A Transactions by Value
Q1'20 –Q3'20

Company	Target	Value MUSD	Details
NEXT PRIVATE B.V.	altice	52,223	*Following completion of the offers, Next Private may acquire the remaining shares through statutory proceedings and delist Altice Europe.*
NTT	docomo	40,282	*NTT will acquire the remaining 33.8% stake in NTT Docomo. Post completion of the offer, Docomo will become a wholly owned subsidiary of NTT.*
Liberty BROADBAND	GCI Liberty	12,494	*Upon completion, GCI Liberty will operate as the a wholly owned subsidiary of Liberty Broadband.*
upc	Sunrise	7,599	*Liberty Global, parent of UPC Switzerland, intends to initiate squeeze-out procedure and delist Sunrise Communications post acquisition.*
verizon	TRACFONE	6,900	*Tracfone is the largest wireless service reseller in the US, with 21 million subscribers*

Source: CapitalIQ

57 cases of acquisition beyond telco's core businesses were identified, with value totaled to $3,588M

Diversification M&A Activities of Operators
Top five segments by transaction count, Q1'20-Q3'20

M&A Target Segment	Description	Transaction Count
Digital Transformation	› system integration; management software and platform; digitalization consulting	11
AI & Robotics	› AI capabilities; AI-enabled solutions (e.g. healthcare and education)	6
IT Service	› Domain registration, web hosting, web security, SSL Certificate etc.	5
Fintech	› Payment solution; micro-finance; block chain; check services	4
Data Centre	› Storage, process and dissemination of data and application	3

TRENDS

CONSOLIDATION Telcos have been persistent in scaling deals to reduce competition, enrich their balance sheet, and reap the benefits of synergies. With the development of 5G networks, spectrum has become a key driver behind Telco M&A

DELISTING As the profit margins of Telcos narrow, delisting is becoming more popular as demonstrated by Telecom Italia, British Telecom and M1 of Singapore. More operators including NTT Docomo and Altice are planned for delisting post completion of acquisition

DIVERSIFICATION Apart from the shared direction of diversification towards enterprise digital transformation, Telcos are reshuffling their portfolio with distinct M&As, including fintech, e-commerce, digital mobility, voice printing etc.

Source: CapitalIQ, Applied Value Analysis

Contents

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

1997

Background as an internal change agent in the **Kinnevik Group**…

KINNEVIK

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

2020

Industries of Expertise

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

Lean Growth Principles

Investments	Management Consulting	Social Responsibility
Selected portfolio companies		
HUMAN CARE, COSMOSID, rivermeadow, Bake My Day, Division 5 Inc Steel Fabrication, Soderfors Steel, KAUNIS IRON	APPLIED VALUE	HAND IN HAND, CIO, KRIS, Straight Ahead Ministries, Exodus

ROI driven

Fact-based

Practical over theoretical

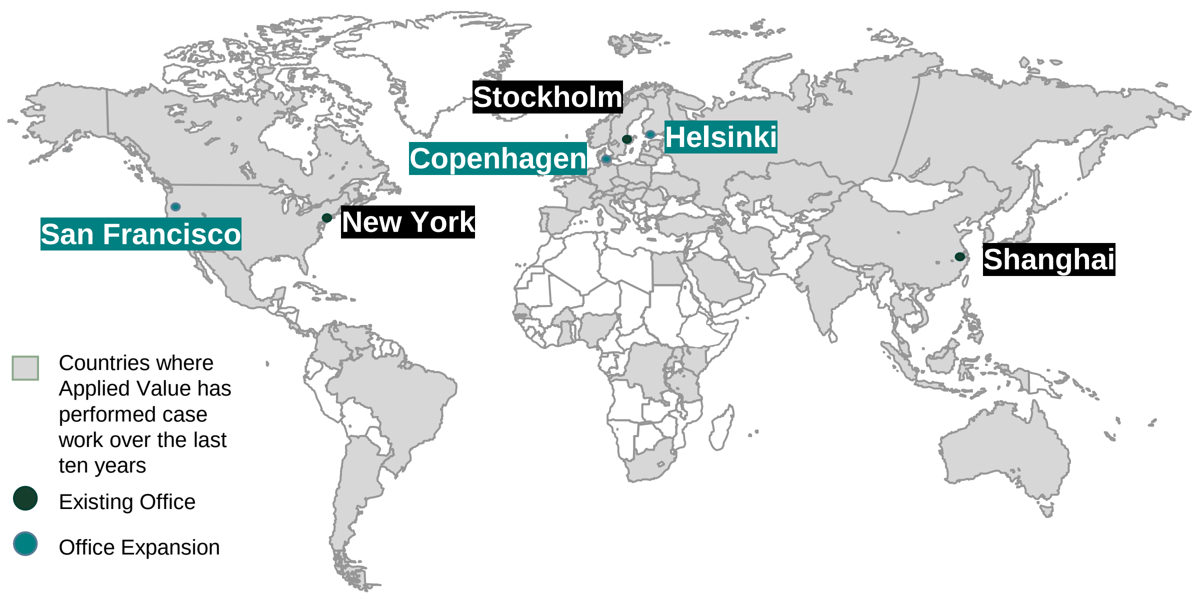
Hands-On

Global perspectives

Applied Value challenges and supports repeat global clients across industries from six offices

Selected Clients

Applied Value Offices and Footprint



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Applied Value is expanding into Copenhagen, Helsinki and San Francisco to better support out Global Clientele

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