

Flash analysis Telecommunication

Credit Analysis

>>> After the 5G auction comes the real work: rollout

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Now that Germany's first 5G auctions are over, a major milestone in introducing the 'key technology for digital transformation' has been achieved. Yet for telecoms companies, the road towards full-scale 5G coverage will be long and rocky. High costs for licences and infrastructure expansion on the one hand, as yet uncertain sales potentials on the other. In spite of the fact that the 5G business case is still unclear, however, none of the big players are likely to risk being left behind technologically. New financing and business models are needed to enable telcos to brace for the challenges ahead.

5G auction in Germany ended in mid-2019 - prices for frequencies higher than expected

After 497 rounds of bidding that lasted over 12 weeks, the first 5G frequencies were auctioned off on 12 June 2019. None of the previous frequency auctions held in Germany had lasted as long. The operators participating in the auction - Deutsche Telekom GmbH, Vodafone GmbH, Drillisch Netz AG and Telefónica Germany GmbH & Co. OHG - together bid EUR 6.55 billion. As a result, the auction was much more costly than initially assumed: experts had anticipated raising between EUR 3 and 5 billion. The proceeds will go towards expanding the digital infrastructure. The amount raised will be fed into the digital pact for schools and will also fund the country's broadband expansion.

Results of the German 5G auction					
	Deutsche Telekom GmbH	Vodafone GmbH	Telefónica Germany GmbH & Co. OHG	Dillisch Netz AG	Total
Number of frequency blocks purchased	13	12	9	7	41
Price in EUR billion	2.17	1.88	1.42	1.07	6.55

Source: Bundesnetzagentur

All four participants consider themselves well-placed with the frequencies for which their bids were chosen. Deutsche Telekom and Vodafone are able to strengthen their market positions - already strong - even further. With Drillisch the German market now has a fourth operator, as a result of which competition is expected to increase (up to now Drillisch had always used its competitors' networks).

The German mobile network companies still criticise the high prices at the auction, which reduced their funds available for network expansion. According to Telekom and Vodafone, the EUR 6.55 billion could have been spent on building 50,000 new mobile sites. In exchange for additional requirements for network expansion in rural areas, after the auction the participants were allowed to stretch their payments until 2030.

Full-scale 5G coverage only possible in connection with major network expansion

Now that the auction of 5G frequencies is over, the focus is on expanding the networks. Deutsche Telekom wants to provide 99% of the German population (90% of the area) with 5G by 2025. Vodafone, the first to start its commercial 5G network at selected German locations in mid-July 2019, has the same intention.

The auctioned frequencies are tied to specific coverage requirements. If a frequency is not used within one year at the latest, the German network agency Bundesnetzagentur can revoke the allocation. The obligation to provide fast Internet coverage on all motorways and main roads in Germany remains in place. Operators unable to fulfill the coverage conditions face high penalties. In Germany and elsewhere, capacity bands are primarily available for 5G. They are well suited for high data rates, yet their range is limited. For

this reason the number of mobile stations needs to increase substantially to ensure full-scale coverage. Apart from a higher density of antenna sites, investments in modernising existing base stations are needed to make them '5G ready' and to connect all antennae via fibre optics. This makes it all the more important to expand the fibre optic network in commercial areas.

Cost of expanding 5G infrastructure higher than for previous technologies

From a global perspective, the GSMA estimates that telcos have invested some USD 1.3 trillion in expanding mobile networks - above all 4G - between 2010 and 2018. S&P expects investments in 5G to end up being much higher for the above reasons. Industry experts anticipate costs of up to EUR 10 billion per operator. How soon and to what extent the capital expenditures will materialise will depend largely on how user demand drives development. European telcos consider the lack of a clear business case to be the main challenge for 5G expansion, rather than the availability of frequencies. The extent to which telecoms operators are willing to make the high necessary investments depends on how possible sales potentials can be manifested.

Sales potentials still nebulous

Sales potentials resulting from 5G are still uncertain because new end markets and business areas that have yet to arise will benefit from the technology. Potentials have been identified especially in connection with IoT (Internet of Things), e.g. connected cars, factory automation, smart cities and remote controlled surgery. However, J.P. Morgan estimates that realising these potentials will be a longer process (~10 years).

The user experience of private users in Europe will hardly change initially (until networks are expanded on a large scale and powerful 5G end devices as well as new offers such as augmented reality have attained mass-marketability). Therefore, it should not be assumed that users will be willing to pay a significantly higher price anytime soon. It will be interesting to see how the pioneers (cities in USA, South Korea and Japan) develop from summer 2019. According to data provided, the average revenues per user (ARPU) are rising significantly in these areas. Even in the past, however, they have always exceeded the European ARPUs.

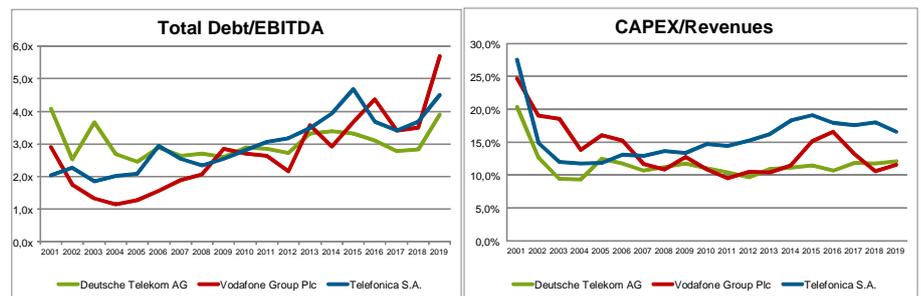
Pressure on debt ratios will continue to grow

Company Comp Set							
Company Name	LTM Total Revenue (in Mio. USD)	FY Total Assets (in Mio. USD)	LTM EBITDA Margin %	LTM EBIT/Interest Expense	LTM Total Debt/EBITDA	FY CAPEX/Total Revenue	FY Total Equity/Total
BT Group plc	30.615,5	60.801,5	28,2%	5,4	3,6x	15,7%	35,5%
Vodafone Group Plc	48.803,3	159.337,5	29,9%	3,2	5,7x	11,6%	44,4%
Orange S.A.	46.500,1	107.731,4	28,8%	3,8	3,6x	18,5%	34,4%
Swisscom AG	11.708,0	23.032,6	31,6%	13,1	2,7x	20,5%	36,3%
Telecom Italia S.p.A.	20.394,8	73.186,5	43,4%	2,1	4,3x	4,7%	33,1%
Telstra Corp. Inc	17.299,5	28.432,0	21,1%	4,5	2,9x	13,0%	34,1%
United Internet AG	5.795,0	9.116,5	23,7%	22,1	2,4x	5,3%	55,3%
Iliad SA	5.681,5	12.549,6	32,1%	6,0	4,1x	50,0%	32,0%
Telefónica Dtl.	8.487,6	15.387,0	20,0%	(1,0)	3,3x	13,1%	54,9%
Verizon Comm. Inc.	131.374,0	264.829,0	37,1%	6,7	2,7x	12,7%	20,7%
Telefónica, S.A.	55.548,7	127.199,4	28,5%	1,7	4,5x	17,7%	23,7%
T-Mobile US, Inc.	44.565,0	72.468,0	28,5%	5,4	3,5x	12,8%	34,1%
AT&T Inc.	182.365,0	531.864,0	29,6%	3,3	3,7x	12,4%	36,5%
Deutsche Telekom	91.355,1	162.140,3	28,2%	4,0	3,9x	11,7%	29,9%
Average	50.035,2	117.719,7	29%	5,7	3,6x	15,7%	35,1%
Median	37.590,3	72.827,3	29%	4,2	3,6x	12,9%	34,1%

Source: S&P Global Market Intelligence, data downloaded on 18 Dec. 2019

A peer group comparison of selected international telcos shows that already now the leverage (LTM total debt/EBITDA) - with an average and a median of 3.6x respectively - leaves relatively little room for an increase.

Over the course of the last few years we can observe a trend towards rising debt among telcos. An expected increase in capital expenditures (CAPEX) owing to 5G (to approx. 22-25% of revenues) coupled with as yet untapped sales potentials is likely to put initial pressure on debt ratios.



Source: S&P Global Market Intelligence, data downloaded on 18 Dec. 2019 Source: S&P Global Market Intelligence, data downloaded on 18 Dec. 2019, Ref. date 2019: 30 June, otherwise: 31 Dec.

High costs force telcos to cooperate more

High costs and a shrinking financial scope are compelling telcos to cooperate more. Operators are likely to collaborate especially in rural areas given the fact that rural expansion is not profitable for individual competitors. According to experts, sharing both passive and active infrastructure could lead to CAPEX savings of 30-40%. In the past, owning infrastructure and the accompanying network quality were used as clear competitive advantages in the telecoms industry. In the future, competition may take place in other areas (e.g. price), requiring strategic rethinking.

Business model adjustment needed

Additional strategic adjustments are imaginable beyond relying more on collaborative efforts - to make use of future sales potentials on the one hand and, on the other, to undertake the necessary investments. Moody's assumes that telcos will broaden their business models and offer services beyond traditional connectivity. To support customers in their efforts to fully exploit the potential of 5G, front-to-end solutions and corporate applications may be helpful. This could, however, entail problems due to stronger competition with established software companies. New competitors may also arise in connection with the expansion of digital infrastructure. Further players such as energy service providers and public utilities may increasingly take on expanding connections. As far as infrastructure expansion is concerned, there are new financing models on the market already today. The high costs associated with expansion make project financing models via separate special-purpose vehicles more attractive.

Conclusion

The speed of the 5G expansion is driven by efforts to manifest sales potentials. Since such potentials are currently still hard for private users to reach, in some markets it will take longer before the necessary investments are undertaken. In the short term, for companies 5G will be rolled out as part of the industry campus project. In the medium term, no telco will be able to afford to not keep step with 5G technology. Sooner or later, investments will rise. This, in turn, will negatively affect the cash flow situation. Telcos will tackle these challenges by way of strategic rethinking, greater cooperation and sharing networks - possibly combined with asset sales - as well as with new financing models.