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Capex Planning with and without New Spectrum

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Abstract : This analysis is focused on defining the spectrum evaluation model for telecom operators in terms of the total cost of ownership (TCO). A quantitative approach for specific case analysis research methodology has been used for identifying the results. Specific input parameters like target user experience, year-on-year traffic growth, capacity site limit per year, target new spectrum type, bandwidth, spectrum efficiency, UE penetration have been used for the spectrum evaluation process and desired outputs in terms of a number of sites, capex in USD and required spectrum bandwidth have been calculated. Furthermore, this study gives a comparison of capex investment for target growth with and without addition spectrum. As a result, the combination of new spectrums 700 and 2600 band have a better evaluation in terms of TCO and performance and it is recommended to use this band in terms of 5G rather than current expansion in current 1800 and 2100 band.

Keywords : spectrum, capex planning, 5G, case study methodology
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