

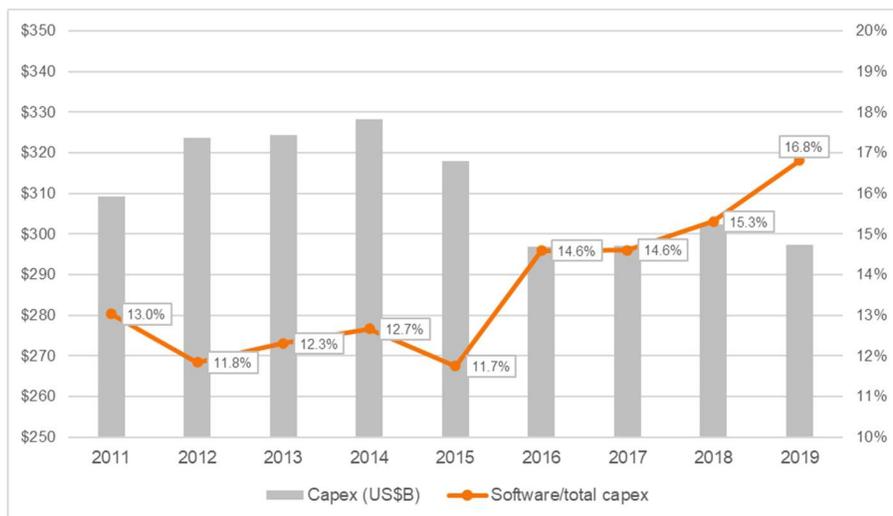
to provide easy to use, multi-functional test solutions. Local language support is important, among other software features.

## Key findings

### Software was 17% of telco capex in 2019, and is trending upwards

For the 30 telcos in our database, software investments accounted for just under 17% (16.8%) of capital expenditures (capex) in 2019 (Figure 2). There is evidence that software is trending upwards as a percentage of total capex, most dramatically in the last two years.

**Figure 2: Total telco capex (billion, USD) and software as a percentage of total, 2011-19**



Source: MTN Consulting

As shown, for the first several years of our time series, software stays flat as a percentage of capex (and in billions of USD). Software jumps in 2016, and grows again in both 2018 and 2019.

This growth supports the general industry consensus that software is “taking over” the world, including [open source software](#). But it’s a slow takeover, especially for big telcos. AT&T is a case in point. While this telco is viewed as among the most aggressive in the world on software, only about 14.5% of 2019 capex was for software – below the industry average. That is up from just 6.9% in 2011, though, so it has more than doubled.

In USD, software capex stayed flat at roughly \$40 billion per year globally from 2011 to 2015, and then rose in steps to reach \$50 billion in 2019. For the 2015-2019 period, in fact, the compound annual growth rate (CAGR) for software capex was 7.6%. That’s a relatively high growth rate for such a broad category of spending, considering the industry.

### Software capex is up to several times more than software opex

This study reviewed software capex for 30 telcos. Only a few of those report reliable operating expenditures (opex) figures on software. The main reason is that software opex is a relatively small category of spending, so not necessarily worth breaking out. More typically, a telco will bundle software opex into a broader category, usually either network operations/maintenance or payments to external suppliers (or similar).