



ever (strictly Android open source code with no integration into Google), but the strategic questions of this maneuver overshadowed any attributes that the device may have had. What was most worrisome, was that a cursory look around hall 7, where many of the Chinese-based OEMs resided, revealed smartphones that were at least as feature rich as any the major OEM design houses were carrying. Many even had wearables to go alongside them. All of this points to a market that is continually being commoditized, at least on the hardware side – a suggestion that has been made years before, but a theme that is now so palpable at the show it is hard to ignore.

The good news for many across the globe is that smartphones are only getting cheaper. Firefox took this one step further, introducing a \$25 smartphone at the show. The phone runs on a 1 Ghz application processor and has a Spreadtrum Edge baseband and WiFi connectivity. We were able to demo the device, which we felt was a large improvement on the year before, when they had the OS (which is based on HTML-5) running on a more expensive 800 mhz processor. Overall, we feel as though Firefox is moving in the right direction with this OS, towards the masses with the hope to migrate these initial customers to more expensive devices in the future. Just in terms of buzz, the Firefox booth was constantly packed with people and had moved from the hinterlands of hall 8 up to hall 3, where many of the bigger companies were located. It appears the thirst for anything non-Android or non-iOS is significant, and as long as Firefox continues to refine its solution, and target the low-end, we feel there should be an encouraging reception there.

Ubuntu was also there as an alternative to Android or iOS. Last year, the company appeared to have the most complete OS offering of any of the three main alternatives – Tizen being the third. During the past year, the company has been able to sign up a number of both operators and hardware vendors, and while the OS is aimed more at the mid- to high-end than Firefox or Tizen, the OS is also the most unique. The buzz was comparable to last year, which was to say it was decent and relatively less notable than Firefox. Regardless, we believe it could have legs given that so many in the entire mobile ecosystem would like to see more players.

The show was lacking in terms of “wow” factors from the handset side. However, there were a few mobile applications that caught our attention. Metaio, a company which has an augmented reality solution, was showing off some very interesting use cases; one from Ikea was demonstrating pulling items like furniture from a physical catalog, onto a 3D imaging sensor attached to a smartphone or tablet and placing the item into your home (viewed through the tablet screen) so you can see what it would look like in your home; another, using 3D glasses, used 3D images to augment the physical world to walk a repairman through the steps they needed to perform to repair an air conditioner. The company has been in existence for almost ten years - the technology was originally formed at Volkswagen. The idea of the technology is becoming more mainstream and Metaio could be one of the key beneficiaries given how advanced the solution appears. The other player in this space is Qualcomm, which for some time now has promoted its augmented reality platform Vuforia. The difference between the two is that Metaio has a solution and is adapting it to customer use cases, whereas Qualcomm has a platform and is looking for app developers to do the consumer facing. In either case, the technology in general is very interesting and we think it could easily be adopted by consumers in significant fashion, all the while increasing demand for data across the network. We expect augmented reality to be one of the major themes in next years MWC as a major handset vendor could launch a smartphone and/or tablet with an integrated 3D image sensor in front of the show.

Handset hardware appeared more iterative from our standpoint. One company we met with, Skycross, has developed an antenna solution for 4X4 MIMO, a seemingly simple