Enterprise Mobility 2019 Predictions



VDC VIEW

December 2018 By Pat Nolan, Research Associate, and Spencer Gisser, Research Associate with Eric Klein, Director, and David Krebs, Executive Vice President

THE VIEW INSIDE

Sitting at 2019's doorstep, the time has come for us to again contemplate our short-term predictions for the coming year. Presented in conjunction with our 2019 Enterprise Mobility Research calendar, these predictions map closely with key research topics and hypotheses we will be testing in 2019. We welcome any and all feedback. Thank you and wishing all a prosperous 2019!

After Torrid 2018, Rugged Mobile Computer Market Growth Will Level off in 2019

Trump's Tax Cuts and Jobs Act that went into effect in 2018 was a boon to corporations with many – in particular in retail and logistics markets – leveraging this access to capital to make investments in critical IT infrastructure and operational technologies, including enterprise mobility solution. Thanks to that financial jolt and other headwinds such as OS migration, the rugged handheld market is expected to end the year up 12-14%. In a market that has not grown since 2014, this represents a massive upswing. Heading into 2019 our outlook suggests continued growth, however, at a slower pace. With an increasingly uncertain global economic outlook and Android-influenced upgrade investments slowing somewhat, we expect the rugged handheld market to grow by a still healthy 4-6% though 2019 when Android's share of rugged handheld shipments will top 75%.

Android Adoption in the Warehouse Reaches Critical Mass

Adoption of Android-powered rugged handheld devices to support warehouse and distribution center automation has lagged the overall market as decision makers held off the inevitable. Long characterized as risk or change averse warehouse technology decision makers have held off migrating their legacy Windows CE-powered devices. However, with the end of Windows CE support nigh and organizations not wanting to risk exposure to the potential security vulnerabilities of those devices, the decision to upgrade is being made for them. That said, the warehouse segment represents over one third of the installed base of rugged handheld devices with upwards of 5-7 million legacy



Windows CE devices still in use. Over the next year we expect a large share of these devices to update to Android and while transportation/logistics and retail segments drove growth of rugged handheld computers in 2018 it will be the warehouse segment that provides the catalyst in 2019.

Doors Open for Browser-First OS in the Enterprise

The desire by enterprises to change and streamline how PCs are deployed, imaged, updated, provisioned, secured and managed combined with external factors such as the rapid shift towards cloud-based enterprise applications is opening the door for alternative OS platforms for enterprises to consider. One such platform is Chrome OS. When Google first launched Chrome OS, speed, simplicity and security were identified as key aspects of its OS. While Chrome has found a home in the education sector, to date, enterprise decision makers have shied from placing big bets on this platform. While the enterprise desktop OS is a slow moving target and 2019 will not see material change to the status quo, the landscape has evolved and the opportunity for Chrome OS or other browser-first OSes to transition the market will accelerate in 2019.

5G Will Grab Headlines in 2019 but Little Else

Investments in 5G networks continue to ramp and the first 5G handsets will arrive in the first half of 2019. However, with all the attention 5G is garnering, it likely will not be until 2020 or even 2021 until the infrastructure is sufficiently built out to support applications with mass. Thus, enterprises purchasing higher-priced 5G-enabled mobile clients in 2019 to "future-proof" investments is likely overkill at this juncture. Outside of truly next generation applications enabled by 5G such as autonomous vehicles, one area we will be focusing our attention in 2019 is evaluating the impact of 5G as an alternative to WiFi in large campus settings and environments where WiFi networks are increasingly congested and have been difficult to manage and performed poorly. For example, like larger industrial facilities. For these applications there is already growing interest in solutions like CBRS that provide private LTE for in-building connectivity. While 5G will primarily co-exist with WiFi we are expecting growing demand for cellular connectivity solutions in environments previously supported by WiFi.

Shift from Conversational to Contextual AI Mindset

Interfaces have evolved significantly since the GUI was introduced thirty years ago. The problem is that they are interfaces and humans need to adapt their behavior to interact with an application. Voice represents the clear next step with language the most powerful communication tool. However, functionality limitations and user frustration kept adoption low and limited to very specific use cases and workflows – such as supporting highly repetitive tasks in the warehouse. This is beginning to change and over the past year we have witnessed significant advances in artificial intelligence and the conversational UI. We next expect a shift from "conversational" to "contextual" AI mindset will drive digital assistant deployment in new markets like warehousing, field services, and retail that traditionally use mobile solutions for anonymous, set, repetitive workflows. Over the past year, we have witnessed developments such as Alex for business and GE leverage Alexa to support tool and parts management for field service workflows. Moreover, IBM and SAP have collaborated to use SAP's intelligent assistant, CoPilot, to help frontline utility field service workers to reroute and reschedule their day based on live weather updates.

AR Overlays and Flexible Displays: Fads that will Remain Fads in 2019

Although in a report published earlier in 2018 VDC projected rapid growth for smartglasses through 2022, this was coming off an extremely small base – 48K units in 2018 – and with most of the opportunity "stuck" in pilot purgatory, the technology remains in search of a breakthrough moment. While smartglass hardware functionality has various performance gaps that will get resolved over time – especially with broader support from the enabling technology community such as silicon vendors – the key issue holding back this market in our opinion is applications. Outside of remote assist, meaningful applications have yet to emerge. This will remain a challenge in 2019 as AR/smartglass adoption among mobile/field workers lags. Also in this category of "cool" technology with limited commercial appeal will be mobile devices with foldable/flexible displays. First generation devices will be introduced in 2019, however, will largely be an exercise of compromises.

Analytics-Based Business Applications go Mainstream in 2019

Analytics-enabled insights have quickly become a core tenet of competitive differentiation in today's business environment, but most organizations must overcome a growing number of complex data challenges. These challenges stem from a variety of factors, ranging from traditional activities (such as mergers and acquisitions), to a number of new macro technological forces: businesses today must contend with social, mobile, and IoT-enabled data sources that drive new technology investments in areas such as NoSQL databases and Hadoop environments. Managing these challenges will require a level of agility and flexibility and visibility that allows business leaders to adopt, iterate, and take advantage of the opportunities that mobile analytics presents. The way in which ISVs begin to integrate analytics into their software will be important and a differentiator going forward.

ABOUT THE AUTHORS

David Krebs has more than 10 years of experience covering the markets for enterprise and government mobility solutions, wireless data communication technologies, and automatic data-capture research and consulting. David focuses on identifying the key drivers and enablers in the adoption of mobile and wireless solutions among mobile workers in the extended enterprise. David's consulting and strategic advisory experience is far reaching and includes technology and market opportunity assessments, technology penetration and adoption enablers, partner profiling and development, new product development, and M&A due diligence support. David has extensive primary market research management and execution experience to support market sizing and forecasting, total cost of ownership (TCO), comparative product performance evaluation, competitive benchmarking, and end-user requirements analysis. David is a graduate of Boston University (BSBA).

Eric Klein is a market research and consulting professional who specializes in the design, analysis, and delivery of project-based research. Over the past 15 years, Eric has worked with a wide array of firms across a number of industries, leading quantitative and qualitative research in areas such as innovation in enterprise software, supply chain risk management, manufacturing operations/automation, and IT spending research. Eric has worked in a variety of market research and management roles, providing market data and competitive intelligence to Fortune 500 firms. His previous employers include: AMR Research, The Yankee Group, and Affiliated Computer Services (ACS). Eric holds a Bachelor of Science degree in finance from Boston University.

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ABOUT VDC RESEARCH

Founded in 1971, VDC Research provides in-depth insights to technology vendors, end users, and investors across the globe. As a market research and consulting firm, VDC's coverage of AutoID, enterprise mobility, industrial automation, and IoT and embedded technologies is among the most advanced



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