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Intelligent virtual assistants will support one-fifth of all human interactions with smartphones by 2019



By [Steve Brachmann](#)

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[Note: This article is the first part of a series which will examine the current landscape of intelligent virtual assistants available to American consumers and across the globe. Part two of this series will compare some of the largest names in the sector, including Alexa, Siri and Cortana. Part three will look at smaller tech firms in the sector and where they might be able to find a competitive advantage against the giants.]



For decades, American pop culture has been anxiously awaiting the advent of artificial intelligence which will allow humans to interact with computers through a natural voice interface. Movies in particular are littered with references to vocal interactions with virtual assistants. There's the scene from [*Star Trek IV: The Voyage Home*](#) in which USS Enterprise engineer Montgomery Scott, or "Scotty," [tries to activate a computer from 1986 by saying "Hello, computer!" into the mouse](#) before receiving the "quaint" suggestion of trying the keyboard instead. In [the recent *Iron Man* series of movies produced by Marvel](#), brilliant engineer Tony Stark [interacts with the J.A.R.V.I.S. computer system through speech as well as gesture](#).

Not all pop culture references to the coming AI future are as positive or even just innocuous as these, however. In the 1983 film [*WarGames*](#), a young man nearly starts World War III because of his reckless use of an AI system [when he probably should have just played a game of chess instead](#). In Stanley Kubrick's 1968 sci-fi classic [*2001: A Space Odyssey*](#), the mild-mannered HAL 9000 computer system plays the murderous antagonist to Dr. David Bowman even as [it tells Dave how sorry it is that it can't help him](#). [*Terminator*'s Skynet](#), [*TRON*'s Master Control Program](#) and the entire universe of [*The Matrix* franchise](#) provides plenty of evidence proving that our culture is at least a little leery of computer systems achieving even the semblance of sentience.

Given these prevailing fears evident in our pop culture, it will be interesting to see how consumers react to the rise of virtual assistant technology which will likely continue through 2017. The most recent [Consumer Electronics Show](#) in Las Vegas saw a great deal of activity from virtual assistants with interactive voice capability, especially [Amazon's Alexa personal assistant which is being baked into automobiles](#)

[and home appliances alike](#). While [Amazon.com \(NASDAQ:AMZN\)](#) and other major tech firms have developed personal assistants for large-scale digital platforms, other companies which aren't necessarily tech developers continue to make progress on their own virtual assistants. Media reports from the end of January indicate that [Starbucks Corporation \(NASDAQ:SBUX\)](#) is offering a virtual barista on its mobile app [through which a user can order coffee for pickup with a voice command](#), even allowing users to modify drink orders like they would when talking to an actual barista.

Despite Hollywood's depictions of voice interactive computer systems have typically involved large mainframe architectures which seem like all-encompassing, immersive digital environments, it appears that most interaction between humans and virtual personal assistants will take place through the portable computing devices many of us own already, at least in the early years. Technology research firm Gartner released a forecast last December predicting that by 2019, [20 percent of all human interactions with smartphones will involve the use of virtual personal assistants](#) having voice recognition capability. Gartner's research also indicates that more than half of all respondents from the U.S. and UK had used the Siri virtual assistant developed by [Apple Inc. \(NASDAQ:AAPL\)](#) within the past three months. Nearly 50 percent from either country used Google Now, a property of [Alphabet Inc. \(NASDAQ:GOOGL\)](#), within the same period of time.

The next decade should see a major increase in intelligent virtual assistants with market research firms predicting that the market will grow at a compound annual growth rate (CAGR) from [34.9 percent](#) up to [38 percent](#) between 2016 and 2024, reaching a global market size which could be as large as \$12.28 billion by 2024. Industry sectors where virtual assistants will see major applications develop soon include banking, financial services and insurance, due in large part to the growth of mobile banking, [as well as end-uses in the healthcare and e-commerce sectors](#). Market research further indicates that development into voice recognition technologies for smartphones and other mobile platforms should drive demand as it continues to simplify voice interactions with mobile computers.