Google: Made in the USA?

By JOEL HANS, Managing Editor, Manufacturing.net

At Google's June 27 to 29 Google I/O conference in San Francisco, CA, the Internet's biggest success story introduced a new version of its immensely popular Android mobile operating system, a tablet and a strange media streaming device for the living room: The Nexus Q. The last of those wasn't given much fanfare, mostly because it's a niche device that will only appeal to those already fully invested in Google's content ecosystem. On top of that, it's not cheap — $299 is a lot to ask for a device that streams content to one's TV.

At the same time, it has a gorgeous, unique design, with a sphere shape bisected by a ring of glowing lights. It looks downright futuristic. Initial reports and reviews were tepid, but then reporters at the *The New York Times* [1] started to notice some interesting branding on the device's back:

"Designed and Manufactured in the USA"

For a technology/gadget company, the "designed" part of the equation is nothing new. All the major electronics firms — think Apple, Dell, HP and more — largely design their products in America. Apple has proudly printed "Designed by Apple in California" on its packages for nearly a decade. This country has scores of talented industrial designers and engineers, and as a result of that, we design some fantastic-looking gadgets. Unfortunately, most of them are made overseas.

And that distinction — the "manufactured" part on the Nexus Q's back — is pretty much the only thing that makes the device interesting. After fielding some questions, Google acknowledged that the device is assembled at a plant somewhere in the San Jose area. While it's certain that the device is not entirely American-made, it's a bold statement amid increasing pressure on the likes of

Apple over the labor conditions of various partner plants across Asia — China in particular.

The *Times* reports [2] Andy Rubin, who leads Android's development, as saying, "We've been absent for so long, we decided, 'Why don't we try it and see what happens?'"

That experiment, of course, has come with a price. The Nexus Q is most certainly more expensive than its direct competition largely, in part, because it was manufactured in the U.S. It's no secret that labor costs are higher here than they are in China, but the mathematics of manufacturing in America versus abroad are changing quickly. With increased transportation costs, more complex regulatory and tax structures, and the problem of separating design from manufacturing, more companies are starting to realize that American manufacturing can be cost-effective. Perhaps Google started to see the real dollar effects of those shifts.

[3]

Photo courtesy of Google *[4]*

That could have been the genesis for Google's decision, but there are a few other determining factors as well. For now, here's what we know about the Nexus Q and its "made in America" claims:

It's assembled in San Jose, CA, but the plant's actual location is still unknown or undisclosed. Google is contracting out the manufacturing process to another company, which is the right decision, since Google likely doesn't have the logistical

and physical assets in place to have its own manufacturing operations. In fact, it's becoming a more popular arrangement for companies producing high-tech or difficult-to-make items. It's allowed many manufacturers to maintain a similar structure to their offshored assets while keeping production nearby. Speaking of which …

It's built 15 minutes from Google's headquarters. According to the *Times*, Google's Rubin spoke at length about the benefits of having the Nexus Q manufacturing close to where Google's engineers live and work. This has, in recent years, been one of the main drivers for the reshoring movement — American manufacturers are starting to realize that it's significantly easier to drive down to the plant in a matter of minutes instead of a day-long flight over the Pacific. And if a drive is still out of the question, there are a lot less barriers to getting someone on the phone, both in terms of time zones and languages.

Joe Britt, Google's engineering director, spoke at length to reporters at *Wired*, and lamented over how difficult manufacturing in China can be. He said, "Unless you've got somebody on the ground, constantly monitoring every aspect, it's really hard to guarantee quality. You're trusting someone 6,000 miles away."

At the same time, Britt said that the main driver for manufacturing the Nexus Q here in the States was the need to rapidly prototype the device and alter the production line accordingly. He said, "We have a manufacturing run where units made in the afternoon end up in the homes of trial users that night."

It's "not a crusade." While many might assume that the Nexus Q is some shot across Apple's bow for all the heat it's taken in the press lately for the working conditions at its partner manufacturing locations in Asia, I don't see it that way. I see it as an experiment, and when it comes to subjects for a "made-in-America" testing ground, it doesn't get much better than the Nexus Q, mostly because it's not going to move all that many units. Most importantly, this gives Google the leeway to fail. They wouldn't have that option with a smartphone.

Some (but not all) parts are sourced from American plants. In a breakdown of the Nexus Q, *Wired* reported [5] that the die-cast zinc base was made by a Wisconsin-based rifle maker, and that others have likely origins in the U.S. Other pieces, such as the PCBs, are emblazoned with "Android" and "Google" labels, but any markings indicating origins aren't visible. It's certainly not out of the question that Google would have PCB partners in either Asia or America adorn these pieces with its trademarks, so it's impossible to say one way or another.

This image [5] from *Wired* clearly shows a connector module that's made in Thailand, which dispels the hope some had that the Nexus Q was completely sourced and made in America.

iFixit has a great "teardown" of the Nexus Q [6] on its site, in which the company's gone to great lengths to determine the possible locations of the individual parts in the device. Here is a glimpse at some of the more traceable parts, according to iFixit. To make the American-sourced parts a little easier to spot, I've added my own

emphasis when applicable:

1. OMRON EE-SX1131 [7] Photomicrosensor (manufactured in either **Santa Clara, CA** or **Schaumburg, IL**).
2. Atmel ATMEGA328P [8] (manufactured in **Colorado Springs, CO** or Nantes, France).
3. NXP Semiconductors 44501 [9] Near-Field Communications Controller (manufactured in Germany, China, UK, Netherlands or Singapore).
4. TXC 8.00 MHz Crystal Quartz Oscillator (manufactured in Taoyuan, Taiwan or Zhejiang, China).
5. Samsung KLMAG4FEJA-A002 [10] 16 GB moviNAND Flash Memory (manufactured in Hwaseong, South Korea, or **Austin, TX**).
6. SMSC LAN95000A [11] Hi-Speed USB 2.0 to 10/100 Ethernet Controller (manufactured in **North America**, Taiwan, Japan, Korea, China, India or Europe).
7. Murata KM10L3002 (manufactured in Japan, China or Taiwan).
8. SMSC USB3320C [12] Highly Integrated Full Featured Hi-Speed USB 2.0 ULPI Transceiver (manufactured in **North America**, Taiwan, Japan, Korea, China, India or Europe).
9. Texas Instruments 6030B1A4 [13] integrated power management (manufactured in **USA**, Germany, China, Japan or the Philippines).
10. PulseJack J0011D0NL (manufactured in China).
11. Toshiba TX147APL (manufactured in Japan).

Manufactured or Assembled?

The global sourcing map for the Nexus Q does put into question Google's bold statement of being "manufactured" in the U.S. In reality, its production has more in common with a global automaker who ships in parts from around the world and completes the final assembly somewhere in America, but that's the nature of the electronics industry today. I would wager that a fully U.S.-made product like the Nexus Q is simply impossible — much of the chipset production completely vacated our shores for "cheaper" pastures decades ago.

I wouldn't fault Google for a moment in the manufactured vs. assembled argument. Truly, its effort to bring as much production to theU.S.as possible is commendable and is a step in the right direction for the economy as a whole. I hope that the Nexus Q experiment turns out to be a success, if only so that the company can approach American production with more depth. I simply don't buy the idea that it's impossible to make electronics in America at a competitive price. Perhaps the world's biggest advertising company will finally show us the way.

What's your take? Please feel free to email me at joel.hans@advantagemedia.com *[14] or comment below!*

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