

December 10, 2015



# Harris & Harris Group Discusses D-Wave Systems, Inc., Quantum Computer's Ability to Find Solutions 100,000,000 Times Faster Than Classical Computers in Letter to Shareholders

NEW YORK, Dec. 10, 2015 (GLOBE NEWSWIRE) -- Harris & Harris Group, Inc. (NASDAQ:TINY), an investor in transformative companies enabled by disruptive science, notes in a letter to shareholders, an event, held by Google that announced that D-Wave's quantum computer was able to find solutions to complicated problems of nearly 1,000 variables up to  $10^8$  (100,000,000) times faster than classical computers.

You may read our letter to shareholders below.

## About Harris & Harris Group

Harris & Harris Group is a publicly traded venture capital firm that is also a business development company. Detailed information about Harris & Harris Group and its holdings can be found on its website at [www.HHVC.com](http://www.HHVC.com), on Facebook at [www.facebook.com/harrisharrisvc](http://www.facebook.com/harrisharrisvc) and by following on Twitter [@harrisandharrisgroup](https://twitter.com/harrisandharrisgroup).

This press release may contain statements of a forward-looking nature relating to future events. These forward-looking statements are subject to the inherent uncertainties in predicting future results and conditions. These statements reflect the Company's current beliefs, and a number of important factors could cause actual results to differ materially from those expressed in this press release. Please see the Company's Annual Report on Form 10-K for the fiscal year ended December 31, 2014, as well as subsequent filings, filed with the Securities and Exchange Commission for a more detailed discussion of the risks and uncertainties associated with the Company's business, including, but not limited to, the risks and uncertainties associated with venture capital investing and other significant factors that could affect the Company's actual results. Except as otherwise required by Federal securities laws, the Company undertakes no obligation to update or revise these forward-looking statements to reflect new events or uncertainties. The references and links to the websites [www.HHVC.com](http://www.HHVC.com) and [www.Facebook.com](http://www.Facebook.com) have been provided as a convenience, and the information contained on such websites is not incorporated by reference into this press release. Harris & Harris Group is not responsible for the contents of third party websites.

Dear Shareholders:

Harris & Harris Group builds transformative companies from disruptive science. This

process can be long, and sometimes it includes unexpected twists and turns. However, there are also days like Tuesday, December 8, 2015, that reinforce why it is exciting to build transformative companies from disruptive science, and why we believe passionately that these efforts will yield growth in value and returns for our shareholders.

On December 8<sup>th</sup>, one of D-Wave Systems' partners, Google, announced that its D-Wave 2X quantum computing system demonstrated an unprecedented decrease in the time-to-solution for a certain set of problems as compared with solving the same problems on classical computers. What do we mean by unprecedented? Consider a decrease in time to reach a solution to problems involving almost 1,000 variables by 100,000,000 times. Let's put this increase in speed in an understandable perspective. An article in *Bloomberg* stated, "In one test, the D-Wave machine needed just a single second to process calculations that would have taken a standard machine 10,000 years to solve." We believe that such acceleration is without comparison in the history of computing.

We are not the only ones that are excited about this announcement. In the past 24 hours over 25 articles have been published online documenting and discussing this exciting breakthrough. You can access these articles by clicking on this link to Google's news search engine: [https://news.google.com/news/story?cf=all&hl=en&pz=1&ned=us&q=d-wave+systems&cf=all&ncl=dZiX84H9efiibMMsnNfEluViQM\\_dM&scoring=n](https://news.google.com/news/story?cf=all&hl=en&pz=1&ned=us&q=d-wave+systems&cf=all&ncl=dZiX84H9efiibMMsnNfEluViQM_dM&scoring=n).

As one of the earliest investors in D-Wave, we have seen the technology evolve from 2 qubits to today's 1,097 qubit machine. While this increase in qubits is impressive, D-Wave is still in the early stages of development of its processors. One analogy often used to describe where D-Wave is today with where it could be in the future is comparing its current processors to the earliest Intel processors. Intel's earliest processors were slow and did not have other critical ecosystem pieces fully developed to take advantage of everything the technology enabled. Fast forward 15 years and then fast forward another 15 years, and look at the computing power made possible, and the market capitalization explosion, as processing power began to expand.

Now, imagine if D-Wave can continue to increase the number of qubits on its processors and improve the ease-of-use of the software and other infrastructure needed to use D-Wave's machines so that they become broadly accessible to multiple industries and individual users. These are exciting times for computing in general and for quantum computing. In addition to Google, this has not gone unnoticed by companies such as Microsoft, IBM, and others that have rapidly stepped up their quantum computing efforts over the past few years.

The article in *Bloomberg* notes that Harmut Naveen, Google's lead engineer on the project with D-Wave, believes that there is promise for D-Wave's computers to improve battery technology, desalinization machines, and solar cells. His belief is based on the unique qualities of qubits that may lend them to uncovering properties about materials, which could result in much more efficient industrial machines. "Because the operating system of nature, as far as we understand it, is quantum physics, you need a process that acts on quantum physics to describe parts of the universe," Neven said. "Sooner or later, quantum computers will be the tool of choice to solve these problems."

Another article in *Bloomberg* cites Marcos Lopez de Prado, a senior managing director at Guggenheim Partners, as indicating that "these supercomputers could give money managers and banks, whose algorithmic-driven technology already dominate trading,

another advantage in a highly competitive market. They can help managers better allocate money to a broad range of assets, find new ways to profit from differences in prices across markets, and value complex derivatives structures.”

Leading companies and organizations are beginning to provide third-party, independent validation of the disruption that D-Wave’s computers may enable. Over the past few years in the Management’s Discussion and Analysis of Financial Condition and Results of Operations in our Annual Report on Form 10-K, we have discussed five core benefits to our shareholders. One of these core benefits is that we provide shareholders with access to disruptive science-enabled companies that would otherwise be difficult for investors in the public market to access. We believe D-Wave is a great example of this benefit to our shareholders.

We are excited to be part of what appears to be a dramatic advancement in computing. We believe that Harris & Harris Group is currently the *only* way for non-accredited investors to participate economically in the potential future growth of D-Wave. We are excited for what the future holds for D-Wave and the potential creation of value this investment may provide for our shareholders.

Thank you for your continued support, and we wish everyone a happy and healthy holiday season as we look forward to an exciting 2016.

/s/

Douglas W. Jamison  
Chairman and Chief Executive Officer

December 10, 2015

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