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Tackling Even More Complexity: D-Wave Delivers Industry-First Hybrid Solver with Continuous Variables to Run on a Quantum Computer

Empowers Organizations to Manage Increased Complexity Across Key Optimization Problems, Expanding Problem Types and Accelerating Commercial Benefit

BURNABY, British Columbia & PALO ALTO, Calif.--(BUSINESS WIRE)-- D-Wave Systems Inc. – a global leader in quantum computing software, services, and systems, and the only quantum computing company building both annealing and gate model quantum computers – today announced an update to its Constrained Quadratic Model (CQM) hybrid solver in the Leap™ quantum cloud service. This update enables organizations, for the first time, to leverage the power of quantum computation to run constrained quadratic optimization problems with continuous variables.

This press release features multimedia. View the full release here:

<https://www.businesswire.com/news/home/20220512005657/en/>

Because of this, the CQM solver allows quantum developers to better represent constrained problems – such as production capacity, available funds, and asset tracking – by using continuous variables, unlocking a new class of problems and further accelerating commercialization of quantum applications. For example, with continuous variables, developers can determine optimal vehicle routes by considering capacity, travel/wait times and distances; pharmaceutical companies can more deeply analyze patient outcomes of drug trials by reviewing trial duration, time-to-patient outcomes and number of iterations; and energy operators can more effectively deliver power to customers through models that address generator output, fuel consumption and emission, and storage levels.

“D-Wave’s new CQM hybrid solver introduces an exciting new method for tackling complex problems in an unconventional way,” said Rami Musa, director of supply chain modeling and analytics at Johnson & Johnson. “By adding support for continuous variables, D-Wave is expanding the utility of its quantum hybrid solver, and the early results we’ve seen are

CQM IN ACTION

SOLVING REAL-WORLD BUSINESS CHALLENGES

Now Supporting Continuous Variables



D-Wave's CQM Hybrid Solver In Action: Tackling Real-World Business Challenges (Graphic: Business Wire)

solutions into the Mixed Integer Programming (MIP) space. This capability further broadens the optimization problems D-Wave's platform can solve, expanding use cases and business impact.

- **Demonstrated Business Value:** Available in the Leap™ quantum cloud service, enhancements to the Constrained Quadratic Model (CQM) hybrid solver enable organizations to find higher-quality solutions to their most complex business problems. This creates real business value, as models using continuous variables can avoid the up to 50% per variable overhead of “fragmentation waste” created previously when continuous variables had to be rounded to integers.
- **Convenience & Time Savings:** Direct representation of continuous variables is a more efficient approach in terms of human time spent in reformulating and tuning problems to reduce waste due to fragmentation.
- **Cross-Industry Impact:** The new CQM solver further expands the commercial value of quantum computing applications across numerous industries. These include: 2D and 3D bin packing such as pallet, aircraft and truck loading; inventory management, and job shop scheduling in manufacturing and logistics; portfolio optimization in financial services; and drug trial optimization in pharmaceuticals.

“The introduction of continuous variables in D-Wave's CQM hybrid solver service enables our customers to immediately begin unlocking and deriving business value on even more

impressive. We believe our work with D-Wave is helping our business stay ahead of the curve and plays an important role in our quantum strategy.”

The CQM solver was first made available in October 2021. It incorporates problem constraints, allowing users to benefit from a simplified expression of their constrained problems, significantly expanding the size and complexity of problems customers can solve with constraints to find the best answers to complex business problems.

Benefits of the addition of continuous variables to the CQM solver include:

- **Industry First:** For the first time ever, users can leverage the power of quantum computation to run constrained quadratic optimization problems that are defined on both discrete *and* continuous variables, expanding the scope of quantum

complex optimization use cases by using quantum hybrid applications,” said Murray Thom, vice president of product management at D-Wave. “Our customers are solving the increasingly-complex challenges facing organizations in our fast-paced, ever-changing world – and we are driven by our belief that quantum computing will play a central role in unlocking these solutions. By providing, for the first time, the ability to run continuous variables on quantum computers, we’re taking an exciting step in the evolution of this innovative technology, marking yet another product and commercial milestone that increases the value of quantum computing to our Global 2000 customer base.”

To learn more about D-Wave’s quantum technology, we invite you to attend the CQM demo [webinar](#) on June 1.

About D-Wave Systems Inc.

D-Wave is a leader in the development and delivery of quantum computing systems, software, and services, and is the world’s first commercial supplier of quantum computers—and the only company building both annealing quantum computers and gate-model quantum computers. Our mission is to unlock the power of quantum computing today to benefit business and society. We do this by delivering customer value with practical quantum applications for problems as diverse as logistics, artificial intelligence, materials sciences, drug discovery, scheduling, cybersecurity, fault detection, and financial modeling. D-Wave’s systems are being used by some of the world’s most advanced organizations, including NEC Corporation, Volkswagen, DENSO, Lockheed Martin, Forschungszentrum Jülich, University of Southern California, and Los Alamos National Laboratory. With headquarters and the Quantum Engineering Center of Excellence based near Vancouver, Canada, D-Wave’s U.S. operations are based in Palo Alto, Calif. D-Wave has a blue-chip investor base that includes PSP Investments, Goldman Sachs, BDC Capital, NEC Corp., Aegis Group Partners, and In-Q-Tel.

D-Wave announced in February it has entered into a definitive transaction agreement with DPCM Capital, Inc. (“DPCM Capital”) (NYSE:XPOA), a publicly traded special purpose acquisition company. Upon closing of the transaction, shares of D-Wave Quantum Inc., a newly formed parent company of D-Wave and DPCM Capital, are expected to trade on the NYSE under the symbol “QBTS.”

Important Information About the Proposed Transaction and Where to Find It:

A full description of the terms of the transaction between D-Wave and DPCM Capital is provided in a registration statement on Form S-4, as amended, filed with the Securities and Exchange Commission (SEC) by D-Wave Quantum Inc. that includes a preliminary prospectus with respect to the combined company’s securities, to be issued in connection with the transaction and a preliminary proxy statement with respect to the stockholder meeting of DPCM Capital to vote on the transaction. D-Wave Quantum Inc. and DPCM Capital urge investors, stockholders, and other interested persons to read the preliminary proxy statement/prospectus, as well as other documents filed with the SEC, because these documents contain important information about D-Wave Quantum Inc., DPCM Capital, D-Wave, and the transaction. After the registration statement is declared effective, the definitive proxy statement/prospectus to be included in the registration statement will be mailed to stockholders of DPCM Capital as of a record date to be established for voting on the transaction. Stockholders also may obtain a copy of the registration statement on Form

S-4, as amended, — including the proxy statement/prospectus and other documents filed with the SEC without charge—by directing a request to: D-Wave Quantum Inc., 3033 Beta Avenue, Burnaby, BC V5G 4M9 Canada; or via email at shareholdercomm@dwavesys.com; and DPCM Capital, 382 NE 191 Street, #24148, Miami, Florida 33179; or via email at mward@hstrategies.com. The preliminary and definitive proxy statement/prospectus to be included in the registration statement, once available, also can be obtained, without charge, at the SEC's website (www.sec.gov).

Forward-Looking Statements

This press release contains forward-looking statements that are based on beliefs and assumptions, and on information currently available. In some cases, you can identify forward-looking statements by the following words: “may,” “will,” “could,” “would,” “should,” “expect,” “intend,” “plan,” “anticipate,” “believe,” “estimate,” “predict,” “project,” “potential,” “continue,” “ongoing,” or the negative of these terms or other comparable terminology, although not all forward-looking statements contain these words. These statements involve risks, uncertainties, and other factors that may cause actual results, levels of activity, performance, or achievements to be materially different from the information expressed or implied by these forward-looking statements. We caution you that these statements are based on a combination of facts and factors currently known by us and our projections of the future, which are subject to a number of risks. Forward-looking statements in this press release include, but are not limited to, statements regarding the benefits of D-Wave's updated CQM solver, including the expansion the size and complexity of problems customers can solve with constraints to find the best answers to complex business problems; the ability to use quantum computation to run constrained quadratic optimization problems that are defined on both discrete *and* continuous variables; and the ability of the CQM solver to create real business value, convenience and time savings, and to have a cross industry impact. We cannot assure you that the forward-looking statements in this press release will prove to be accurate. These forward-looking statements are subject to a number of risks and uncertainties, including, among others, various factors beyond management's control, including risks relating to general economic conditions, risks relating to the immaturity of the quantum computing market, and other risks; uncertainties and factors set forth in the sections entitled “Risk Factors” and “Cautionary Note Regarding Forward-Looking Statements” in DPCM Capital's Annual Report on Form 10-K, as amended, originally filed with the SEC on March 31, 2021; and in the proxy statement/prospectus filed by D-Wave Quantum Inc. in connection with the proposed transaction and other filings with the SEC. Furthermore, if the forward-looking statements prove to be inaccurate, the inaccuracy may be material. In addition, you are cautioned that past performance may not be indicative of future results. In light of the significant uncertainties in these forward-looking statements, you should not rely on these statements in making an investment decision or regard these statements as a representation or warranty by any person that D-Wave Quantum Inc., DPCM Capital, or D-Wave will achieve our objectives and plans in any specified time frame, or at all. The forward-looking statements in this press release represent our views as of the date of this press release. We anticipate that subsequent events and developments will cause our views to change. However, while we may elect to update these forward-looking statements at some point in the future, we have no current intention of doing so except to the extent required by applicable law. You should, therefore, not rely on these forward-looking statements as representing our views as of any date subsequent to the date of this press release.

No Offer or Solicitation

This communication is for informational purposes only and does not constitute an offer or invitation for the sale or purchase of securities, assets, or the business described herein or a commitment to D-Wave Quantum Inc., DPCM Capital, or D-Wave; nor is it a solicitation of any vote, consent, or approval in any jurisdiction pursuant to or in connection with the transaction or otherwise, nor shall there be any sale, issuance, or transfer of securities in any jurisdiction in contravention of applicable law.

Participants in Solicitation

D-Wave Quantum Inc., DPCM Capital, and D-Wave, and their respective directors and executive officers, may be deemed participants in the solicitation of proxies of DPCM Capital's stockholders in respect of the transaction. Information about the directors and executive officers of DPCM Capital is set forth in DPCM Capital's filings with the SEC. Information about the directors and executive officers of D-Wave Quantum Inc. and more detailed information regarding the identity of all potential participants, and their direct and indirect interests by security holdings or otherwise, will be set forth in the definitive proxy statement/prospectus for the transaction when available. Additional information regarding the identity of all potential participants in the solicitation of proxies to DPCM Capital's stockholders in connection with the proposed transaction and other matters to be voted upon at the special meeting, and their direct and indirect interests, by security holdings or otherwise, will be included in the definitive proxy statement/prospectus, when it becomes available.

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For D-Wave:

Media Contact:

Alan Auyeung

AxiCom

media@dwavesys.com

Investor Relations Contact:

Kevin Hunt

ir@dwavesys.com

For DPCM Capital:

Marley Ward

mward@hstrategies.com

Source: D-Wave Systems Inc.