



## Pacific Biosciences Announces a New Paradigm in DNA Sequencing – Highly Accurate Single-Molecule Long Reads

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### ***Significant Enhancements to Sequel System Enable >99% Accuracy for Single-Molecule Reads up to 15 kb; Throughput Increases by 2- to 4-Fold***

MENLO PARK, Calif., Oct. 10, 2018 (GLOBE NEWSWIRE) -- Pacific Biosciences of California, Inc. (Nasdaq:PACB), the leading provider of high-quality sequencing of genomes, transcriptomes and epigenomes, today announced major enhancements to its Sequel® System, including a new version (6.0) of its software, new consumable reagents (3.0) and a new SMRT® Cell (1M v3).

Combined, the enhancements in the Sequel System 6.0 release improve the performance and affordability of Single Molecule, Real-Time (SMRT) Sequencing by providing individual long reads with greater than 99% accuracy, increasing the throughput up to 50 Gb per SMRT Cell and delivering average read lengths up to 100,000 base pairs, depending on insert size. These improvements are expected to greatly improve the accuracy and cost effectiveness of applications such as whole genome sequencing, human structural variant detection, targeted sequencing and RNA transcript isoform sequencing (Iso-Seq® method). For example:

- For amplicon and RNA sequencing projects, customers can generate up to 500,000 single-molecule reads with high fidelity (>99% single-molecule accuracy); and
- For whole genome sequencing projects, users can achieve up to 20 Gb per SMRT Cell with average read lengths up to 30 kb and high consensus accuracy (>99.999%).

Since SMRT Sequencing technology was first commercialized in 2011, Pacific Biosciences has increased the throughput per SMRT Cell by 2,000-fold. These ongoing throughput increases provide a significant cost savings for sequencing projects in the human, plant and animal markets, which allows researchers the opportunity to increase the size and scope of their projects.

"These enhancements represent the most significant improvement in terms of read length, throughput and accuracy that we have ever achieved in a single product release," said Michael Hunkapiller, Ph.D., Chief Executive Officer of Pacific Biosciences. "Customers can now enjoy unprecedented capabilities with a new paradigm in long-read sequencing — highly accurate single-molecule reads. Further, many users no longer need to trade off between read length and accuracy, because it is now possible to achieve Sanger-quality reads as long as 15 kb."

Jonas Korlach, Ph.D., Chief Scientific Officer, added: "Our latest Sequel System improvements open new opportunities for comprehensively mapping all human genetic variation — from SNVs to indels to SVs — in a single assay and pave the way for a new era of population-scale, high-quality human genome studies."

More information about the Sequel System is available at: <https://www.pacb.com/products-and-services/sequel-system/> and more information about this latest release is available at: <https://www.pacb.com/products-and-services/sequel-system/latest-system-release/>

### **About Pacific Biosciences**

Pacific Biosciences of California, Inc. (NASDAQ:PACB) offers sequencing systems to help scientists resolve genetically complex problems. Based on its novel Single Molecule, Real-Time (SMRT®) technology, Pacific Biosciences' products enable: *de novo* genome assembly to finish genomes in order to more fully identify, annotate and decipher genomic structures; full-length transcript analysis to improve annotations in reference genomes, characterize alternatively spliced isoforms in important gene families, and find novel genes; targeted sequencing to more comprehensively characterize genetic variations; and real-time kinetic information for epigenome characterization. Pacific Biosciences' technology provides high accuracy, ultra-long reads, uniform coverage, and the ability to simultaneously detect epigenetic changes. PacBio® sequencing systems, including consumables and software, provide a simple, fast, end-to-end workflow for SMRT Sequencing. More information is available at [www.pacb.com](http://www.pacb.com).

### **Forward-Looking Statements**

All statements in this press release that are not historical are forward-looking statements, including, among other things, statements relating to future availability, uses, accuracy, quality or performance of, or benefits of using, products or technologies, product improvements or enhancements, the suitability or utility of methods, products or technologies for particular applications, studies or projects, the expected costs or benefits of sequencing projects, and other future events. You should not place undue reliance on forward-looking statements because they involve known and unknown risks, uncertainties, changes in circumstances and other factors that are, in some cases, beyond Pacific Biosciences' control and could cause actual results to differ materially from the information expressed or implied by forward-looking statements made in this press release. Factors that could materially affect actual results can be found in Pacific Biosciences' most recent filings with the Securities and Exchange Commission, including Pacific Biosciences' most recent reports on Forms 8-K, 10-K and 10-Q, and include those listed under the caption "Risk Factors."

Pacific Biosciences undertakes no obligation to revise or update information in this press release to reflect events or circumstances in the future, even if new information becomes available.

### **Contacts**

Media:

Nicole Litchfield

415.793.6468

[nicole@bioscribe.com](mailto:nicole@bioscribe.com)

Investors:

Trevin Rard  
650.521.8450  
[ir@pacificbiosciences.com](mailto:ir@pacificbiosciences.com)



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