



# Pfizer Announces Collaboration with GSK on Next-Generation Design of Portable, Continuous, Miniature and Modular (PCMM) Oral Solid Dose Development and Manufacturing Units

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Further Enhances Pfizer's Collaborative Effort to Help Establish PCMM as Industry Standard in Continuous Processing

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Pfizer Inc. (NYSE:PFE) announced today a multi-year collaboration with GSK on the development of a next-generation equipment design, building upon Pfizer's existing portable, continuous, miniature and modular (PCMM) prototype for oral solid dose (OSD) pharmaceutical development and manufacturing.

Pfizer's current PCMM prototype is an autonomous and transportable pod that may be quickly shipped from location to location and readily brought online to create a fully functional module that is compliant with industry-standard good manufacturing practice (GMP) guidelines.

Together with GSK, which has notable technical and regulatory experience in continuous processing, Pfizer will conduct coordinated experiments to create the next-generation design of Pfizer's current PCMM prototype. This collaboration expands upon Pfizer's existing collaboration with GEA and G-CON Manufacturing, which resulted in the design of the current prototype unit presently implemented at Pfizer's labs in Groton, Conn.

"Pfizer's success in building a first-of-a-kind, transportable, modular prototype for oral solid dose pharmaceutical development and manufacturing holds promise to help transform industry practices, and we invite other organizations to join us in this effort," said Rod MacKenzie, senior vice president, PharmaTherapeutics Research & Development at Pfizer. "We believe coupling Pfizer's industry-leading development and manufacturing capabilities with GSK's experience and expertise in continuous processing has the potential to lead to a superior technology, thereby allowing us to more quickly and efficiently bring therapies to patients."

"GSK is pursuing a strategy to enhance our manufacturing supply chains and drive access to medicines for patients. Continuous manufacturing is a key part of that strategy," said Mark Buswell, Vice President and Head of Advanced Manufacturing Technologies at GSK. "This strategic collaboration allows Pfizer and GSK to align on a vision for PCMM-OSD equipment designs and enables us to deploy flexible, agile and reliable manufacturing solutions to benefit patients."

### About Pfizer's PCMM Technology

Pfizer's PCMM technology is a first-of-a-kind manufacturing system that accelerates the speed of tablet production. The pharmaceutical industry has been trending toward lower-volume products, driven by an increased focus on precision medicine approaches to develop and commercialize new therapies. This creates a need for smaller, more flexible continuous processing technologies.

By miniaturizing the equipment, the continuous process can be enclosed in a portable, autonomous space called a POD, which can be transported to any location in the world and quickly assembled.

The PCMM technology has the potential to transform the current biopharmaceutical industry standard of using batch processing to manufacture tablets and capsules from powders—an oftentimes complex process that requires large, dedicated manufacturing facilities. The PCMM continuous process takes only minutes from the addition of raw materials to the completion of finished tablets or capsules.

Highlights of PCMM's potential for smaller, more flexible, continuous processing technologies include:

A PCMM facility has a 60 to 70% smaller footprint than a conventional production facility. PCMM enables use of the same equipment for development, clinical trials and commercial manufacturing. A PCMM facility takes about one year to set up and start running, compared to two to three years for standard processes.

Pfizer Inc.: Working together for a healthier world®

At Pfizer, we apply science and our global resources to bring therapies to people that extend and significantly improve their lives. We strive to set the standard for quality, safety and value in the discovery, development and manufacture of health care products. Our global portfolio includes medicines and vaccines as well as many of the world's best-known consumer health care products. Every day, Pfizer colleagues work across developed and emerging markets to advance wellness, prevention, treatments and cures that challenge the most feared diseases of our time. Consistent with our responsibility as one of the world's premier innovative biopharmaceutical companies, we collaborate with health care providers, governments and local communities to support and expand access to reliable, affordable health care around the world. For more than 150 years, Pfizer has worked to make a difference for all who rely on us. To learn more, please visit us at [www.pfizer.com](http://www.pfizer.com)

Disclosure Notice: The information contained in this release is as of October 29, 2015. Pfizer assumes no obligation to update forward-looking statements contained in this release as the result of new information or future events or developments.

This release contains forward-looking information about Pfizer's collaboration with GlaxoSmithKline (GSK) on the next-generation equipment design of Pfizer's portable, continuous, miniature and modular (PCMM) prototype for oral solid dose pharmaceutical development and manufacturing, including Pfizer's plans and prospects for PCMM technology and its potential benefits, that involves substantial risks and uncertainties that could cause actual results to differ materially from those expressed or implied by such statements. Risks and uncertainties include, among other things, the uncertainties inherent in research and development; risks related to the ability to realize the anticipated benefits of the collaboration with GSK and PCMM technology, including the possibility that the expected benefits from such collaboration and PCMM technology will not be realized or will not be realized within the expected time period; other business effects, including the effects of industry, market, economic, political or regulatory conditions; and competitive developments.

A further description of risks and uncertainties can be found in Pfizer's Annual Report on Form 10-K for the fiscal year ended December 31, 2014 and in its subsequent reports on Form 10-Q, including in the sections thereof captioned "Risk Factors" and "Forward-Looking Information and Factors That May Affect Future Results", as well as in its subsequent reports on Form 8-K, all of which are filed with the SEC and available at [www.sec.gov](http://www.sec.gov) and [www.pfizer.com](http://www.pfizer.com).

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