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### **Pharmaceutical tablet production goes mobile with award-winning technology from GEA**

Düsseldorf (Germany), March 10, 2016 – Pfizer combines GEA's continuous processing technology with G-CON portable cleanroom PODs for the manufacture of drug tablets anytime, anywhere.

A flexible and configurable continuous pharmaceutical tablet processing technology developed by GEA has won an international award as part of a groundbreaking mobile manufacturing platform developed in collaboration with Pfizer and G-CON. The prototype Portable, Continuous, Miniature and Modular (PCMM) manufacturing platform, now operational at Pfizer's facility in Groton, Connecticut, scooped Pfizer the International Society for Pharmaceutical Engineering (ISPE)'s 2016 Facility of the Year Award (FOYA) for Equipment Innovation.

Conceived, designed and built through a future-facing initiative between the three partners, the PCMM technology has at its center GEA's state-of-the-art miniaturized and mobile ConsiGma™ continuous oral solid dosage (OSD) pharmaceutical processing technology. Configurable for either, direct blending and compression of powder streams into tablets, or for wet granulation, drying, milling and tableting, the ConsiGma™ system features a new vertical in-line powder blender. Five process analytical technologies (PATs) have been integrated into the system to continuously monitor and control all process and quality parameters, and ensure minimal losses in the event that production needs to be stopped or process parameters need to be changed. G-CON has designed and constructed a modular, prefabricated, and highly maneuverable POD® system that can rapidly be set up around the equipment to provide a GMP-compliant cleanroom environment.

The PCMM technology represents a completely self-contained and mobile continuous manufacturing system that can be transported to geographical areas of need, and installed within days to produce as much or as little drug as required, whether for product development, clinical trials manufacture or commercial production. When production is no longer required the unit can just as easily be disassembled and transported to another site. This agile concept for continuous manufacturing could feasibly make huge, purpose-built production plants a thing of the past, significantly

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reducing capital expenditure and operational redundancy. And with industry driving to reduce costs, increase quality and focus on patient-centric manufacturing, GEA believes that PCMM manufacturing will become the industry standard platform for processing OSD therapeutics.

"We are delighted that the PCMM solution received this prestigious award from the global pharmaceutical engineering society represented by the ISPE," comments Frans K. A. Maas, Vice President, Application Center (APC) Pharma Solids at GEA. "The consortium of Pfizer, G-CON and GEA have been working successfully on this groundbreaking manufacturing innovation, now in operation in Groton. We're convinced that this platform, based on GEA's ConsiGma™ continuous manufacturing technology, provides significant benefits to both the generic and the ethical industry segments when compared with more traditional batch technologies, and is in line with FDA's guidelines for future solids manufacturing innovations."

"We are proud to have been part of this award-winning collaboration in manufacturing technology, engineering and design, which we believe will change the face of OSD drug manufacture globally," comments H. McCoy Knight, Vice President APC Pharma North America. "As a leading innovator of manufacturing concepts, analytical technologies and processing equipment design, GEA will continue to play a major role in the drive to develop OSD manufacturing technologies and solutions for efficient, cost-effective and patient-centric manufacturing."



ConsiGma™ 25 continuous line installed at Pfizer's facility in Groton, Connecticut.



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**About GEA**

GEA is one of the largest suppliers for the food processing industry and a wide range of process industries that generated consolidated revenues of approximately EUR 4.6 billion in 2015. As an international technology group, the Company focuses on process technology and components for sophisticated production processes in various end-user markets. The Group generates more than 70 percent of its revenue in the food sector that enjoys long-term sustainable growth. As of December 31, 2015, the Company employed around 17,500 people worldwide. GEA is a market and technology leader in its business areas. The Company is listed in Germany's MDAX (G1A, WKN 660 200). In addition, GEA's share is a constituent of the MSCI Global Sustainability Indexes. Further information is available on the Internet at [gea.com](http://gea.com).

If you do not want to receive any further information from GEA, please send an email to [pr@gea.com](mailto:pr@gea.com).

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## **Additional notes for editors:**

### **ConsiGma™ and PCMM manufacturing**

The pilot PCMM unit is built on the custom designed ConsiGma™ 25 CTL (continuous tableting line) platform, which can be configured either for the direct blending and compression of powder streams into tablets, or for wet granulation, drying, milling and tableting. While the pilot plant at the Pfizer's site has the capacity to process up to 30 kg per hour, the GEA ConsiGma™ system and modular POD®s can easily be expanded. Additional unit operations, for example, for OSD coating, can just be plugged in. The technologies underpinning the platform mean that in principle the concept could also be applied to the processing of other solid dosage forms, active pharmaceutical ingredients (APIs), biologics, and to sterile manufacturing processes.

ConsiGma™ is a Six Sigma-inspired manufacturing platform developed as a single unit that combines multiple technologies to transform powder into finished dosage forms. The ConsiGma™ family of continuous manufacturing systems includes state-of-the-art continuous high-shear granulation and drying lines for continuous OSD processing plants (ConsiGma™ CTL), as well as the ConsiGma™ CDC platform for blending and direct compression. ConsiGma™ 1 is the baby brother to the large- and small-scale industrial platforms, and has been developed as a laboratory-scale version of the ConsiGma™ concept for small-scale research and development applications.

For further information on GEA's pharmaceutical manufacturing and processing technologies, visit [gea.com](http://gea.com)

### **The Pfizer, G-CON and GEA collaboration**

Pfizer, G-CON and GEA's PCMM initiative began with a feasibility study in November 2012. The ultimate aim was to design and build a continuous OSD manufacturing operation that could be integrated into a prefabricated modular facility set up within an existing building, be adaptable for expansion, and have the portability and flexibility to be disassembled and redeployed to other locations on demand.

The final PCMM unit, constructed at Pfizer's Groton facility in March 2015, was the culmination of a massive technological and engineering project, with multiple high level challenges for the three partners, who were separated geographically by thousands of miles. Critical to the success of the design effort was the close

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coordination between Pfizer and the G-CON and GEA engineering design teams. The custom version of GEA's ConsiGma™ 25 unit, incorporating new mixing, feeding and PAT capabilities, was built in Belgium and transported to Pfizer's site. In parallel, the G-CON POD® structures to house the processing unit were designed and constructed by G-CON at its own facilities, and transported the 1,800 miles to the Groton site, where the ConsiGma™ 25 unit and POD® housing were integrated in situ, within days.

**ISPE web FOYA awards:**

<http://www.facilityoftheyear.org/home2>

<http://www.facilityoftheyear.org/winners/2016-equipment-innovation>