GLOBALFOUNDRIES Extends FinFET Offering with New Features to Enable Tomorrow's Intelligent Systems

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Feature-rich semiconductor platform delivers competitive performance and scalability for next-generation compute applications

Santa Clara, Calif., September 25, 2018 – As part of the company's new focus on intensifying investment in differentiation, GLOBALFOUNDRIES announced today at its annual Global Technology Conference (GTC), plans to introduce a full set of new technology features to its 14/12nm FinFET offering. The features are designed to deliver better scalability and performance for applications in high-growth markets such as hyperscale datacenters and autonomous vehicles.

In today's data-intensive world, there is an insatiable demand for high-performance chips to process and analyze the surge of information produced by connected devices. GF's FinFET offering is an ideal platform for designing high-performance, power-efficient system-on-chips (SoCs) for the most demanding compute applications. The new platform features will improve power, performance and scalability by delivering transistor enhancements optimized for ultra-high performance and enhanced RF connectivity, as well as new high-speed, high-density memories for emerging enterprise and cloud security needs.

"We are committed to enhancing our differentiated offerings to help clients get more value out of their investments in each technology generation," said Dr. Bami Bastani, senior vice president of business units at GF. "By introducing these new features to our FinFET offering we are delivering powerful technology enhancements that will enable clients to extend performance and create innovative products for the next generation of intelligent systems."

GF's 14/12nm FinFET platform provides advanced performance and power with significant cost advantages. The feature-rich enhancements being added to the platform include:

- Ultra-high density: Delivers increased transistor density through continued improvements to the 12LP design library (7.5T), combined with SRAM and analog advances, delivering a smaller die area to support clients in core compute, connect and store applications, as well as mobility and consumer.
- Performance boost: Increases performance through reducing SRAM Vmin by 100mV and standby leakage current by ~50 percent – to extend performance for both existing and emerging applications in machine learning and artificial intelligence.
- RF/analog: Provides a full suite of passive devices, ultra-thick metal and LDMOS options for advanced RF performance with Ft/Fmax at 340GHz targeting <6GHz RF SoCs with high digital content.
- Embedded memory: Offers ultra-high security, one-time programmable (OTP) and multi-time programmable (MTP) embedded non-volatile (eNVM) memory for emerging enterprise, cloud and communication applications. Using physically undetectable charge-trapping technology (CTT) enables security solutions including "physically unclonable device" capabilities and efficient non-volatile memories for higher levels of SoC integration. GF's CTT solution requires no additional processing or masking steps and delivers up to twice the density of similar OTP solutions based on dielectric fuse technology.

The company's 14LPP technology can provide up to 55 percent higher device performance and 60 percent lower total power compared to 28nm technologies, while its 12LP technology provides as much as a 15 percent improvement in circuit density and more than a 10 percent improvement in performance over 16/14nm FinFET solutions on the market today. GF's leading-edge FinFET platform has been in high-volume production since early 2016, and is Automotive Grade 2 ready.

About GF

GLOBALFOUNDRIES (GF) is a leading full-service foundry delivering truly differentiated semiconductor technologies for a range of high-growth markets. GF provides a unique combination of design, development, and fabrication services, with a range of innovative IP and feature-rich offerings including FinFET, FDX™, RF, and power/analog mixed signal. With a manufacturing footprint spanning three continents, GF has the flexibility and agility to meet the dynamic needs of clients across the globe. GF is owned by Mubadala Investment Company. For more information, visit globalfoundries.com.

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