Companies Collaborate for Fab Synchronization to Produce Advanced Chips Based on 28 nm Process Technology with STMicroelectronics

IBM, Samsung Electronics, Co., Ltd., GLOBALFOUNDRIES and STMicroelectronics said today that the four companies are collaborating to synchronize semiconductor manufacturing facilities for the production of advanced chips based on 28 nm process jointly developed by IBM Technology Alliance.

The synchronization process helps ensure that customers' chip designs can be produced at multiple sources in three different continents with no redesign required. The technology alliance, based at IBM's facility in East Fishkill, New York, includes GLOBALFOUNDRIES, IBM, Infineon Technologies, Renesas Electronics, Samsung Electronics, STMicroelectronics and Toshiba.

IBM, Samsung and GLOBALFOUNDRIES -- members of the Common Platform Alliance -- are working with STMicroelectronics to develop and standardize advanced, 28 nm process technology to ensure consistent production worldwide for electronics and device manufacturers.

The low-power, 28 nm process technology is designed for the next generation of smart mobile devices, enabling designs with faster processing speeds, smaller feature sizes, low standby power and longer battery life. The 28nm process technology is slated to become the foundation for a new generation of portable electronics that are capable of handling streaming video, data, voice, social networking and mobile commerce applications.

The 28-nanometer chips will use bulk complementary metal oxide semiconductor (CMOS), and high-k metal gate (HKMG) processes. Members of the alliance are driving the global standard for HKMG with their unique "Gate First" technology. The approach is superior to other HKMG solutions in both scalability and manufacturability, offering a smaller die size and compatibility with design elements and process flows from previous technology nodes.

"Today's announcement is further proof of the importance of collaboration to enabling advanced technology foundry innovation," said Suresh Venkatesan, vice president of alliance technology development at GLOBALFOUNDRIES.

"Along with our partners in the Common Platform Alliance, we are committed to delivering to customers a robust 28 nm technology implementation that breaks new ground in performance and power efficiency. By collaborating to align production capabilities we provide customers with maximum flexibility in foundry selection at the leading edge."

The members of the Common Platform alliance and STMicroelectronics will optimize

the processes and tooling at all the respective manufacturing lines, or fabs, to ensure the chip designs can be produced with the same functional and electrical results at each of the companies.

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