# ARM and TSMC tape out first 20nm ARM Cortex-A15 multicore processor

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ARM and TSMC today announced that they have taped out the first 20nm ARM Cortex-A15 MPCore processor. The two companies completed the implementation from RTL to tape out in six months using TSMC's Open Innovation Platform (OIP) 20nm design ecosystem.

Building on this tape out, ARM will optimize its physical IP technology to specific TSMC 20nm process technologies for Power, Performance and Area (PPA), driving the specification of the Cortex-A15 Processor Optimization Pack (POP). TSMC's 20nm process provides more than a 2X performance increase over preceding generations.

"This first 20nm ARM Cortex-A15 tape out paves the way for the next generation of SoC integration and performance," said Mike Inglis, Executive Vice President and General Manager, Processor Division, ARM. "We value the work carried out between ARM, TSMC and its design ecosystem partners to achieve this milestone. It is a strong testimonial of our mutual commitment to provide industry leading technology for advanced node designs. The combination of TSMC technology, the latest ARM Cortex-A15 processor and Artisan physical IP will help meet the increasing demand for high performance, energy-efficient consumer devices."

The Cortex-A15 processor's low-power, high-performance and advanced feature set is perfectly suited to 20nm process implementations. Resulting SoCs will be ideal for a wide variety of markets, including smartphone, tablet, mobile computing, high-end digital home, servers,

and wireless infrastructure.

This announcement highlights the continued and increased collaboration between ARM and TSMC. The test chip was implemented using a commercially available 20nm tool chain and design services provided by the OIP ecosystem and ARM Connected Community partners. This successful collaborative milestone is confirmation of TSMC's Open Innovation Platform (OIP) that promotes innovation for the semiconductor design community.

The ARM Connected Community ecosystem is one of the largest in the industry, comprising over 900 companies. The community provides solutions integrating, using or supporting the ARM architecture, and includes industry leaders from every aspect of the design cycle. The ARM Connected Community ensures the broadest level of support and supply chain for ARM technology-based SoCs.

Source: ARM