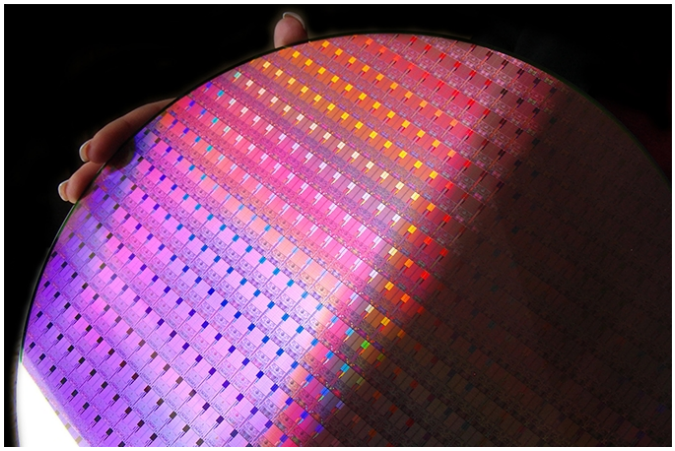
The Intel Q1 2018 financial report bears good news for shareholders, but the news is not so good for customers-- Chipzilla is delaying mass production of 10nm processors from 2018 to 2019.



“We are shipping [10-nm chips] in low volume and yields are improving, but the rate of improvement is slower than we anticipated," CEO Bryan Krzanich says. "As a result, volume production is moving from the second half of 2018 into 2019. We understand the yield issues and have defined improvements for them, but they will take time to implement and qualify.”

The reason behind the delay? Costs, ultimately. According to the company, current production yields are too low to start high-volume manufacturing (HVM). 10nm fabrication involves very high transistor density, leading to heavy use of multipatterning. Intel says select features demand quad (4x), penta (5x), or hexa (6x) patterning, exposing the wafer up to six times to "draw" one feature via deep ultra violet (DUV) lithography. The result is a longer manufacturing cycle.

Chipzilla does not say when 10nm chips will start shipping in 2019, since the CEO simply states "we will do it as quickly as we can, based on the yield." Thus, 2018 will see Intel release another generation of processors based on the 14nm process, including Whiskey Lake client PC chips and Cascade Lake for the datacentre.

This is hardly the first delay for 10nm-based chips-- Intel initially planned to launch the processors back in H2 2016. However, if hearsay is to be believed, the process was hit with issues as early as 2015. July 2015 saw Intel announce a first delay due to issues with the aforementioned multipatterning. The issues returned in 2016, 2017 and now in 2018.

Some commentors suggest Intel should skip the 10nm generation and go straight to 7nm. This might be a possibility, although the Intel pipeline currently lists products using the first generation of the 10nm process and subsequent versions (namely 10+ and 10++) as further refinement comes into play. Either way, only the future will tell.

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