

Mobile makers can offer market for fabs if they make 10-14 nm chips

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Mobile-device companies could be a ready-made market for domestic fabrication plants if the latter manufacture chips of 10-14 nanometres (nm), which comprise the bulk of the requirement in making smartphones.

Mobile manufacturers imported chips worth \$9-10 billion in FY23.

The demand for semiconductors in the country is \$22-24 billion. The requirements of mobile devices account for nearly half the demand.

The Tata fab plant in Dholera, Gujarat, will start with chips of 28 nm and above and will focus on the auto industry, among others.

But officials in the Ministry of Electronics and Information and Technology say production will graduate to newer nodes starting with 14 nm.

According to a study by the Indian Cellular & Electronics Association (ICEA), which researched the cost of an average smartphone, semiconductors account for 25-30 per cent of it. This, it says, equates \$9-10 billion in semiconductor demand in FY23 for the mobile industry.

The ICEA says all the mobile phone chip requirements cannot be met from domestic fab plants to start with, the reason being that higher-end phones need

many advanced chips such as the processor integrated circuits (which account for 7.8 per cent of the material cost but require even lower nodes), which have to be imported.

However, the ICEA says processor chips for entry-level smartphones are 10 per cent of the chips required for all the smartphones produced in India (15-18 million of the 150 million phones sold per annum).

The association says these chips going in entry level smartphones can be indigenised and the requirements for most of their semiconductors can be served by domestic

fabs if they make 10-14 nm chips.

The ICEA adds further that with a monthly output of around 1.5 million units (10-14 nm) of chipsets, annual output could be 18 million.

This assumes 15,000 wafers of 300 mm at a 70 per cent yield from a fab with the number of dies per wafer being 148.

It says a wafer fabrication unit in India in processors specifically for mobile devices can be a self-sustaining business proposition.

The ICEA estimates the current production of electronics of \$103 billion should translate into a semiconductor requirement of \$26-31 billion.

Given the government's target of hitting \$300 billion worth of electronics production by 2026, the demand for semiconductors is set to rise to \$60-100 billion.

