

Will TVs and devices carry high-density pixel displays later this year? Electronics manufacturing equipment maker Applied Materials is introducing machinery making the large-scale manufacture of such displays possible, the MIT Technology Review reports.



Apple already manufactures high-density pixel displays (dubbed "Retina" displays) for in the iPhone 4S and the new iPad-- but Applied Materials claims its process for the creation of high-clarity screens is both cheaper and easier than the one Apple employs.

The Applied Materials method uses plasma-enhanced chemical vapor deposition (PECVD) to deposit thin films of material onto surfaces, allowing the production of displays with indium gallium zinc oxide (IGZO) backplanes. IGZO is the secret behind cheaper-- and larger-- high-density pixel displays, at least according to Applied Materials.

Current LCD displays use a TFT backplane made in either amorphous silicon or partially crystallised silicon (LTPS).

"I would expect to see products this year," Applied Materials says. The technology will surely go into tablets first, but TV applications will result in higher resolutions and faster refresh rates. It should also allow the easier manufacture of flexible displays, due to being compatible with the plastic used to create bendy devices.

Applied Materials says it already has 5 customers using the IGZO process. The company doesn't mention names, but it does supply manufacturing equipment to Samsung, Sharp and LG... and Sharp and Samsung are both said to supply iPad displays.

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