

Processes & R2R Tools for the Digital Manufacture of Large Area Electronics Devices

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Abstract

Equipment and material additive and subtractive processes have been developed for the manufacture of electronic devices on webs of polymer and ultra-thin (50um) flexible glass in R2R mode. A toolbox of device manufacturing processes is at various stages of development. Processes include transparent conductor application, ink jet printing of dielectric and conducting inks, laser curing, direct write laser ablative fine scale structuring of printed metal and transparent conductive coatings, laser via drilling and laser part cutting. The Technology Readiness Levels of these processes on different substrates is reviewed and the main applications benefitting from use of thin glass substrates is discussed.

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