

## **PRESS RELEASE**

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## TechSearch International Forecasts Growth for High-Density FO-WLP and Examines Panel Potential

Growth for high-density fan-out wafer level packages (FO-WLPs) continues unabated, with Apple's continued use of TSMC's InFO process in its smartphone application processors. Standard FO-WLP has experienced a few bumps on the road to higher volumes this year. Problems with Qualcomm's steep ramp of FO-WLP for its PMICs and RF transceivers at the end of last year, and board-level reliability concerns from some customers, coupled with the option of lower-priced flip chip CSP substrates, prompted Qualcomm to lower its FO-WLP forecast this year and next. While Qualcomm's forecast may be lower, others are stepping in to use recently installed capacity. FO-WLP has been adoption for some radar modules in vehicles equipped with advanced driver assist systems (ADAS) by companies including Infineon and NXP. Adoption of fan-out on substrate for high-performance applications is expanding.

With the continued quest for lower cost packaging, promoters of panel-level FO-WLP in a variety of formats are receiving greater attention. Supplier panel production plans are highlighted.

The Advanced Packaging Update features special coverage of OSAT financials for the first half of the year. Revenues for the top 20 OSATs in the fist half of 2017 are presented and an analysis of the strength of the top 10 are discussed. Electronics industry growth drivers are discussed and the global economic outlook is presented. A section on trends in copper clip packaging includes a market forecast for QFNs with Cu clip. Material developments for Pb-free clip attach are discussed. The report also examines trends in connectivity modules with a focus on Wi-Fi modules. This latest Advanced Packaging Update is a 38-page report with full references and an accompanying set of 35 PowerPoint slides.

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