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LYON, FRANCE -- Embedded wafer-level-package revenue is on the rise, but has a long way to go to reach significant levels.

That's the finding of research firm **Yole Développement,** which has found that revenues of FOWLPs reached $107 million in 2011 and will rise to $200 million by 2015.

Despite the push from major ODMs like **Infineon,** revenue is now stabilizing as **Intel Mobile** pr ogressively phases out its key wireless baseband SoC product production, Yole said.

“This young industry will need to wait until 2015-16 to reach $200 million, as the demand will shift from IDMs to leading fabless wireless IC players, such as **Qualcomm, Broadcom, Mediatek,** etc., and will be supported by the solid infrastructure of ‘top four’ major assembly houses,” explains Lionel Cadix, market & technology analyst, Advanced Packaging at Yole.

Low reliability on large package body size and lack of flexibility in the IC to package co-design process are the two main factors limiting the wide adoption of FOWLP technology on the wireless IC market, Yole said. FOWLP technology imposes a specific redesign of the chip for efficient integration into the package: both Infineon and **STEricsson** (which already have products on the market) spent almost 18 month to redesign their baseband and RF-transceiver SoCs in order to place the pads at optimized locations and match with a single RDL, 0.5mm board pitch eWLB package design.

FOWLP is a restrictive package technology for most of the world’s IC designers to adopt efficiently, especially fabless chip companies. This is why only big semiconductor IDM companies having IC-to-package co-design environments well established in-house can drive and support the initial growth of this new wafer-level-packaging platform at its early stages.

Two main OSATs supporting FOWLP infrastructure today, and four more are coming online, Yole said. "FOWLP is clearly the 'middle-end' platform of choice for packaging assembly and test OSAT suppliers in the IC industry, as all implies a simplification and consolidation of the entire packaging, assembly & test and supply chain inside one single factory."

Nanium and **Stats ChipPAC** shared more than 80% of the $107 million FOWLP revenue revenue last year, mainly driven by Intel Mobile's volume demand on eWLB production. While **ASE** is shutting down its 200mm eWLB operations this year to focus on future generation FOWLP technologies, many OSAT players are presently in qualification phase such as **ADL, Amkor** and **NEPES.** Additional packaging houses are expected to come onboard in the 2013-14 timeframe, such as **TSMC, SPIL** and **J-Devices**.