COMPANY INSIGHT

Photovoltech counts on MWT, deep-pocket parents for European high efficiency market

Photovoltech
INNOVATIVE PHOTOVOLTAIC TECHNOLOGY

Not all PV suppliers are racing towards GW volume production, vertical integration and Asian manufacturing.

Some players in Europe and the US still see a niche for producing premium, high-efficiency cells in developed countries—if they have the ties to major research organizations for technology development, partnerships with upstream suppliers and downstream module/systems customers for moving distinguishing technologies into production, and the ties to major backers for the capital to keep investing.

Photovoltech, in Tienen, Belgium, counts on improving efficiency with Metal-Wrap-Through (MWT) technology from IMEC, partnerships with module makers on back contact cell assembly and custom architectural projects, and the support of its two energy giant parents Total and GDF Suez , to continue its growth in the premium market for high efficiency cells, and for those with an attractive uniform look. The company benefits from a respected brand name in Europe, and bankability in spades from its shareholders. It saw 30% growth last year to €104 million, according to reports from parent Total, with production capacity now at 160MWp, and is reviewing a planned expansion to 260MWp by 2012.

Photovoltech has been making small quantities of MWT cells for some time, mostly for custom architectural projects that want the more attractive look of the uniform surface.

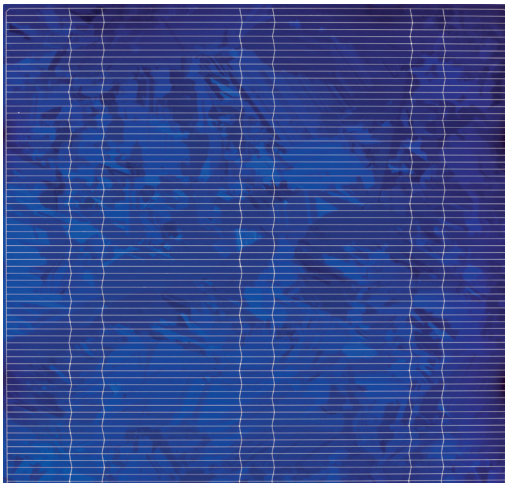
It's working with module makers to develop an assembly process that can take advantage of the potential efficiencies and the benefits of easier automation from connecting the cells directly from the back, and reports that the process is now in qualification at the module makers.

BIPV Facade using Photovoltech cells (Courtesy of Photovoltech)

The IMEC-spin off has exclusive license to a MWT process developed at the Belgian lab, which R&D and Technology Manager Jozef Szlufcik explains adds only two process steps to the conventional screen printed cell process, laser drilling the vias to start, and then isolating around the vias by laser on the rear side at the end, plus some minor modification of the screen printing.

Next step on the company's roadmap is to move the process to monocrystalline silicon wafers, which the company figures should provide a total efficiency gain at the module level of 0.5% to 1% (expected) absolute, after optimization of the process, as well as improving the uniform look of the modules for the building integrated applications. Szlufcik says the company is working with equipment and module makers in the lab and has shipped a few sample modules. The company says it has a roadmap to 20% efficiency cells with low cost processing, based largely on work at the IMEC PV industry affiliate program. The IMEC program targets interdigitated back contact cells on thin wafers.

www.photovoltech.be



Photovoltech back-contact cell (Courtesy of Photovoltech)