

G TECTS
178 DELANCEY STREET
NEW YORK, NY 10002 USA
212 414 2300 212 414 2301
communications@gtects.com www.gtects.com

Electronic Curtain Wall Prototype addresses the lack of intelligent exterior wall systems available in the marketplace today. While building façades are receiving continually increasing programmatic, functional and technical demands such as the display of information, ventilation & operability, power generation, shading and high insulating values, the manufacturing and construction industry response is to layer these system on the façade with independent systems by different manufacturers. This most often only allows any one or two of these programmatic, functional and technical demands to be accommodated leaving a marginally intelligent wall as a result. The prototype proposes a triple-glazed unit with a three inch square grid of RGB LED light sources within one of the two cavities of the glazed unit. Three approaches are under consideration for the prototype to achieve this: a three inch square grid of micro-wires printed onto the glass surface with addressable LED fixtures at each intersection; an horizontally laid metal-encased strip of LED fixtures spaced at three inch intervals adhered to a glass pane; and an organic LED film covering the extents of the glass pane. Power generation varies with each of the approaches. The first approach incorporating the three inch square grid of wires would be coupled with a thin-film photovoltaic cell applied to a glass pane within the cavity. This film would enable a degree of solar shading to compensate for the high level of transparency afforded by the LED installation. The second approach incorporating the horizontally laid strips would contain solar generating apparatus within the strip between the LED fixtures. The metal strips would produce a degree of sun shading while allowing the unit to remain largely transparent. The third approach would incorporate the same thin-film photovoltaic of the first approach or alternatively through the addition of a spandrel panel incorporate a photovoltaic cell for the generation of energy. Each approach proposes energy generation, super-graphic information display, transparency, insulation, sun screening and the potential for operability.

