

# **Smart Building Window Management System For SPD Smart Windows**

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[ **Note** – The Slide Numbers refer to the associated PowerPoint presentation. See [http://www.spdcontrolsystems.com/Docs/Daylight\\_Harvesting.pdf](http://www.spdcontrolsystems.com/Docs/Daylight_Harvesting.pdf) ]

## **1. Introduction**

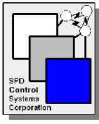
### **[Slide 18] Title Pages**

My name is John Petraglia. I am the CEO of SPD Control Systems Corporation. In the audience is Peter Solaski, our Chief Technology Officer. Our company is licensed by Research Frontiers to design and manufacturer SPD electronic control systems.

### **[Slide 19] Topics**

This presentation is a continuation of Greg's presentation. Greg discussed the advantages of SPD SmartGlass for daylight harvesting, energy efficiency, occupant comfort, glare control, aesthetics, privacy, and security. My presentation discusses how we are realizing many of these SPD advantages with our Smart Building Window Management System.

I will discuss why a Smart Management System is needed for larger buildings for determining the optimum balance between energy efficiency and occupant comfort. Then I will discuss the characteristics of our Smart Building System. I will conclude by presenting our contract with the New York State Energy Research and Development Authority, called NYSERDA, to build and demonstrate a prototype of our Smart Building System.



**[Slide 20] Glass in Modern Construction**

Glass walls are now predominant in high rise construction. Look at any new building and there is a preponderance of glass. The aesthetics are overwhelming for both the viewers and the tenants. But, there are associated problems including excessive energy usage, unsightly window treatments, lack of privacy, window glare, and fading - especially of art works.

**[Slide 21] Energy Conservation, Daylighting and Glare Control**

SPD SmartGlass and our Smart Building System is part of the solution to these problems. The U.S. Energy Department has estimated that rooms with windows that control tint could reduce lighting energy usage by up to 60 percent. Window treatments are not needed. Window tinting can block direct and reflected sunlight during times of peak glare.

**[Slide 22] Occupant Comfort, Aesthetics and Privacy**

Occupant comfort, aesthetics and privacy are inherent with SPD SmartGlass. Privacy is attainable with the very dark Hitachi and Isoclima films. And, the fading of a room's contents can now be controlled.

**[Slide 23] Smart Energy Management**

Commercially available wall and handheld switches can be used to change window tinting for a few rooms. The wall switches may have photo and motion sensors to automatically affect the tint of the windows. These off-the-shelf controls are satisfactory but will not provide optimum energy efficiency and flexible window tint control. This is especially true for larger buildings. Our Smart Building Window Management System is the solution.

