



OFFICIAL SMARTGLASS OF THE  
USA PAVILION AT EXPO MILANO 2015

## **VISION SYSTEMS IS IMPROVING THE PASSENGER EXPERIENCE ONBOARD MARINE VESSELS WITH ELECTRONICALLY DIMMABLE WINDOW SOLUTIONS USING RESEARCH FRONTIERS SPD-SMARTGLASS TECHNOLOGY**

**Amsterdam, Netherlands – November 13, 2018.** Glare is a problem in almost every vehicle, home and office. However on the water, it poses particularly difficult problems because of sunlight reflecting off of the water and other surfaces, and the difficulty of elegantly providing shading. This week's METS trade show in Amsterdam is the stage for visitors to experience a wide array of SPD-SmartGlass solutions featured by Research Frontiers licensee Vision Systems. SPD-SmartGlass electronically dimmable windows (EDWs) block unwanted heat, light, glare and noise while making marine vessels more comfortable, safer, and quieter, and also improve energy efficiency. They improve the passenger experience onboard small boats, large yachts and cruise ships – by instantly and optimally managing healthy daylight for comfort and well-being – by allowing occupants to control the tint of their glass at the touch of a button.

A key part of the passenger experience is enjoying the magnificent views. With traditional shades, views are blocked at all times sunlight, glare or heat are uncomfortable. SPD-SmartGlass is the solution, by enabling passengers to instantly and precisely “tune” the window’s tint to a level that allows them to continue to enjoy views yet remain comfortable, even in direct sun. Also, Vision Systems’ EDWs deliver a weight reduction of about 30% compared to motorized shades. This weight savings, plus the decreased use of air conditioning due to remarkable heat-rejection, increases the distance the vessel can travel on a tank of fuel.

On marine vessels, very heavily tinted glass is used to try to reduce the amount of heat entering, and the amount of time the shades must be down. While this reduces somewhat the time the shades need to be down, it is ineffective in controlling heat and glare for many conditions. Also, the heavy tint diminishes the passengers’ enjoyment of views during dusk, nighttime and dawn hours. The high optical clarity of SPD-SmartGlass in the “clear” state provides a solution to this problem and preserves views.

Now, Vision Systems is improving the passenger experience even further by integrating complimentary technologies into SPD-SmartGlass EDWs. The solutions at Vision Systems’ METS booth (11.303) include:

- **Multizone:** Their Nuance V2 solution, being shown on a large, curved EDW, allows for independent control of light and glare through different “zones” of an SPD-SmartGlass EDW, to any level of tint.
- **Interactive:** Vision Systems’ Info-Vision is the first smart window integrating electroluminescent technology with SPD-SmartGlass. A product being demonstrated at METS provides passengers with information right on the window. The tint of the Info-Vision EDW can automatically adjust in real-time, providing optimal contrast and readability. Another electroluminescent SPD-SmartGlass solution being shown features a transparent touch control panel.

- Variable light control with diffused light and privacy control: This solution enables dimming from clear to very dark, plus an opaque white or dark feature for privacy, or for enjoying soft diffused daylight.
- Self-powered: The Vision Systems' Eco-Smart solution on display is a self-powered dimmable hatch using photovoltaic cells to operate the EDW independently of the vessel's electrical system.

Vision Systems noted, "All these solutions include the control electronics, internally developed, enabling different types of control: buttons, touch panel, PEDs, centralized control panel, gesture (touchless) or integrated light sensors for an automatic mode. Vision Systems can supply complete customized systems including composite frames and opening mechanisms produced in-house."



*Vision Systems' SPD-SmartGlass electronically dimmable windows (EDWs) feature electroluminescent technology to display information, and the ability to control the level of tint in different zones.*

For more information about the SPD-SmartGlass solutions Vision Systems is showcasing at METS this week, we invite you to read their [press release](#).

### **About Research Frontiers Inc.**

Research Frontiers is a publicly traded technology company and the developer of patented SPD-Smart light-control film technology which allows users to instantly, precisely and uniformly control the shading of glass or plastic products, either manually or automatically. Research Frontiers has licensed its smart glass technology to over 40 companies that include well known chemical, material science and glass companies. Products using Research Frontiers' smart glass technology are being used in tens of thousands of cars, aircraft, yachts, trains, homes, offices, museums and other buildings. For more information, please visit our website at [www.SmartGlass.com](http://www.SmartGlass.com), and on [Facebook](#), [Twitter](#), [LinkedIn](#) and [YouTube](#).

*Note: From time to time Research Frontiers may issue forward-looking statements which involve risks and uncertainties. This press release contains forward-looking statements. Actual results, especially those reliant on activities by third parties, could differ and are not guaranteed. Any forward-looking statements should be considered accordingly. "SPD-Smart" and "SPD-SmartGlass" are trademarks of Research Frontiers Inc. "Nuance V2," "Info-Vision" and "Eco-Smart" are trademarks of Vision Systems.*

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