

# Market Wired - November 2016



## **Aerospace Industry Adoption of SPD-Smart Electronically Dimmable Windows Highlights 2016 NBAA Trade Show**

ORLANDO, FL--(Marketwired - November 04, 2016) - The trend towards increasing adoption of SPD-Smart electronically dimmable windows (EDWs) for aircraft was evident at this week's National Business Aviation Association Convention and Exhibition in Orlando, Florida. Aircraft at the show's static display, mockups on the show floor, and public statements in the media, all point towards the industry's growing recognition of EDWs as a mature solution for the challenges inherent in controlling light, glare, heat and noise in aircraft cabins.

Business aviation and commercial aviation share the goal of improving the passenger experience, and this need has opened new horizons in cabin innovations. One such innovation is SPD EDW systems. Passengers, at the touch of a button, can instantly and precisely control the amount of daylight and glare coming through their window. They continue to enjoy views by tinting their SPD-Smart EDW to control the amount of light to a comfortable level, rather than blocking their view with a shade. SPD EDW systems offer the aerospace industry a potent and unique solution to improving how passengers feel while in flight, by managing the ideal level of daylight in the cabin -- as well as offering a cooler, quieter cabin.

### **Textron Beechcraft: King Air 350i, King Air 250, and King Air C90GTx**

SPD-Smart EDWs, supplied by Research Frontiers licensee InspecTech Aero Service, are standard equipment on all three models of Beechcraft King Airs: King Air 350i, King Air 250, and King Air C90GTx. Two models of King Airs were at this week's NBAA show. InspecTech is now shipping their "iShade" brand of SPD-Smart EDWs for all three models, and King Airs with the new interiors are now being delivered to customers.

### **Honda Aircraft Company: HondaJet HA-420**

SPD-Smart EDWs, supplied by Research Frontiers licensee Vision Systems, are standard equipment on the HondaJet HA-420. A HondaJet demonstrator aircraft was on display at this week's NBAA show. Vision Systems is now shipping their "Nuance" brand of SPD-Smart EDWs for the HondaJet. Deliveries of the HondaJet to customers began in December of 2015.

### **Dassault Aviation: Falcon 5X**

SPD-Smart skylights, supplied by Vision Systems, have been selected as standard equipment on the upcoming Dassault Falcon 5X. At this week's NBAA, a mockup of this aircraft was on display. To offer business aviation's first skylight, Dassault was faced with a critical need to manage the intense solar light, glare and heat coming into the cabin, and SPD-Smart EDW technology provide the solution. At the NBAA, the media reported that Dassault is confident that the Falcon 5X will be ready for service entry in 2020.

### **Bell Helicopter: 525 and 429 VIP helicopters**

SPD-Smart EDWs are offered on the Bell Helicopter 429 VIP. Deliveries of this model, with the new interior, was announced by Bell as beginning in March of this year. Passengers control the SPD-Smart EDWs using their own smart devices, which connect to the internal Wi-Fi in the aircraft. SPD-Smart EDWs are also to be offered on the upcoming VIP Model 525. Bell hopes to certify this super-medium rotorcraft in late 2017 or early 2018. At this week's NBAA, this model, with SPD-Smart EDWs, was launched at the booth of Bell Helicopter.

## **Epic Aircraft: E1000**

At this week's NBAA, a mockup of the Epic E1000 aircraft, with SPD-Smart EDWs, was exhibited. EDWs are standard equipment on the upcoming E1000 -- the company now expects that certification is expected in the summer of 2017, with deliveries to begin shortly thereafter. The status of the E1000 was covered by the media at the show: here is an example. The E1000 uses carbon fiber composite material in the airframe, and as a result larger, and a greater number, of passenger windows are possible. These windows presented a light, glare and heat challenge, however SPD-Smart technology provides the elegant solution.

## **Survey on EDWs replacing window shades**

Further evidence of the industry's growing recognition of EDWs as a mature solution for the challenges inherent in controlling light, glare, heat and noise in aircraft cabins can be seen in a recent survey. The publication Business Jet Interiors International recently conducted a survey with the question: "Will 'smart' glass ever fully replace window shades?" 69% of respondents indicated "Yes."

## **Lufthansa Technik and Mercedes interior for VIP aircraft**

At the NBAA this week, an example of the industry's movement towards EDWs as a solution to a myriad of cabin comfort challenges was Lufthansa Technik and Mercedes presenting the final version of their next-generation interior design for private jets having the size of Airbus and Boeing aircraft. The early design concept, revealed in 2015, has evolved to meet the requirements of airworthiness and certification. A unique use of EDWs are under evaluation for this interior, and the EDW feature has been widely reported in the media: here is an example.

## **Airbus Corporate Jets: Melody interior**

Another example of the trend towards EDW adoption was seen this week in NBAA show media reports about Airbus Corporate Jet's "Melody" cabin concept, for future customers of the ACJ320neo family of aircraft. These reports indicate inclusion of EDWs that can control the amount of natural light entering the cabin. Please read this article for an example.

## **Vision Systems at 2016 NBAA**

Vision Systems showcased an array of SPD-Smart EDWs at NBAA, including its new "Acti-Vision" product which incorporates an interactive transparent display in the EDW, products that combine SPD EDWs with traditional shades, and EDW solutions for the cockpit. The media covered Vision Systems at the show, and here is an example (go to page 10).

The comfort and benefits an SPD-Smart EDW system delivers extends to all passengers. Cabin-wide control, operated either automatically with photosensors, or manually by the crew, can result in the optimum level of daylight present throughout the cabin at all times. Benefits include greater daylighting, enhanced views, and a more open feeling resulting in greater perceived space. The management and "harvesting" of healthy daylighting instantly transforms the cabin, and synergistically complements other cabin systems including interior mood lighting systems and entertainment systems, for an unequalled passenger experience.

Aircraft windows are a primary path of other environmental elements entering an aircraft cabin through the window opening -- heat and noise. These unwanted elements -- cabin heat while the aircraft is at the gate or on the taxiway, and cabin noise during the entire flight -- are well known to cause passengers discomfort, fatigue, jet lag and other physical and psychological ailments. SPD EDW systems provide remarkable thermal and acoustic insulation, further improving the passenger experience for all. Coupled with the superior daylight management benefits, as an integrated system it is the complete solution for managing the environmental challenges outside conditions inflict on the cabin interior.

## **About Research Frontiers Inc.**

Research Frontiers (REFR) is the developer of SPD-Smart light-control technology which allows users to instantly, precisely and uniformly control the shading of glass or plastic, either manually or automatically. Research Frontiers has built an infrastructure of over 40 licensed companies that collectively are capable of serving the growing global demand for smart glass products in automobiles, homes, buildings, museums, aircraft and boats. For more information, please visit our website at [www.SmartGlass.com](http://www.SmartGlass.com), and on Facebook, Twitter, LinkedIn and YouTube.

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