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VISION SYSTEMS EXHIBITS NEW ELECTRONICALLY DIMMABLE SOLUTIONS AT METS TRADE SHOW NOVEMBER 15-17, 2016, AMSTERDAM, NL SYP, BOOTH 11.303

Vision Systems, as a world leader in superior solar protection and electronically dimmable solutions, will present its latest innovations at METS trade show, including a dimmable window integrating a composite frame and a self-powered photovoltaic dimmable hatch nominated at DAME Design Award.

Vision Systems' **photovoltaic dimmable hatch** has been selected for the **DAME Design Award**. It comprises photovoltaic cells integrated into the frame of the window allowing to harvest solar energy in a battery in order to enable the solution to operate, totally independently of the boat electrical system. The system is easily controlled either thanks to a touch panel directly on the window, remotely from a PED, or automatically with additional sensors (light, temperature). This innovative solution allows low maintenance as well as elegance and modernity.

Another innovation will be exhibited at the show. On the strength of its composite expertise, the company developed a dimmable window consisting of a **composite frame laminated into a mirror coated glazing**. The beautiful finish and very high-end design of this new solution is particularly well adapted to the superyacht market.

Vision Systems' Electronically Dimmable Windows (EDWs), which product flag ship is Nuance, allow the passengers to adjust the tint of their window in order to regulate daylight, glare and heat, while preserving the view. They enhance visual, thermal and acoustic comfort for a more enjoyable time on the water.

They are unique on the market today and offer many advantages over other systems.

Based on SPD technology (Suspended Particle Device), these EDWs provide **infinite variable shading** from fully clear to an extremely dark state (over 99.9% light blockage) and **instant response time**. They contribute to a reduction of air conditioning consumption and **automatically switch to their darkest possible state when unpowered**, maximizing heat rejection and keeping the interior cooler, with a reduction of inside temperature up to 10°C/18°F. These solutions block more than 99.9% of harmful UV light and of IR with an additional integrated anti-IR film.

They also deliver a weight reduction of about 30% compared with motorized shades. Furthermore, they have no moving parts as the **electronics are fully integrated**, reducing maintenance costs and downtime. They can be incorporated into **flat or curved surfaces** (2D, 3D), use **plastic, glass or composite glass**, tailor specific shapes of windows, in horizontal or vertical position, and offer an unprecedented optical quality.

Vision Systems' EDWs range comprises multizone dimmable systems and **privacy and partition solutions**: Eclipse, a system that makes the glazing turn opaque white for 100% privacy while enjoying daylight ; Noctis, a dimmable shading system to control daylight and privacy ; and the "see without being seen" solutions, with laminated fabric or mirror coating for premium style privacy.

All these solutions can come as a whole to replace the entire window. The installation is often limited to a simple mechanical operation which is also very advantageous for the aftermarket.



Vision Systems demonstrated its expertise as a system supplier offering complete customized systems in the Silver Arrows Marine's yacht, Arrow460-Granturismo, the first boat to be designed by Mercedes-Benz Style, in collaboration with some of the world's top naval architects, and for which various skills and knowhows were required from Vision Systems. This included glass lamination integrating a silver-grey fabric for design and privacy and an SPD film for the dimmable system, an electronic box, large composite frames, machine-tooled parts in stainless steel, guiding elements, hydraulic systems, inflatable seals and safety devices.

Vision Systems will also present its embedded digital system, i-Comfort. This solution offers flexible functionalities in one single system: cabin comfort management, entertainment & connectivity and navigation monitoring.

Shades, dimmable windows, powered windows, lights or temperature can easily be controlled through a personal tablet, a touch panel or a centralized screen, and specific areas can be managed separately in the yacht.

This wireless BYOD system ensures high customer satisfaction and ancillary revenues for ferries. It comprises Wi-Fi AVOD allowing the connection from personal devices, with a rich and varied content including movies, music, games, daily press, extensive tourist information, ticketing, local advertising with discount vouchers and priority data flows for safety videos and announcements putting the tablets on hold. Connectivity over 3G/4G/Wi-Fi near the coast and satellite connection in the open sea allows constant internet connection.

Finally, navigation data monitoring gives information through communication network NMEA 2000.

Some of Vision Systems' **customer references** for solar protection and onboard Entertainment include: Dassault, Epic, Airbus Helicopters, RUAG, HondaJet, BCA, Sabena Technics, ATR, SuperJet International, La Compagnie, Embraer, Boeing, Silver Arrows Marine, Goiot Systems, Notin, Merford, Stadler, Safra, Bombardier, Hymer, Marcopolo, SigmaCabins, Cabines Denizet... and there are currently new projects under way in different market segments.

Please enjoy Vision Systems' new video on EDWs

Please enjoy Vision Systems' new video on Onboard Entertainment

Headquartered near Lyon, France, with a production and sales unit in Melbourne, Florida, USA, and a trade office in Singapore, Vision Systems is a tier-one system supplier in the aeronautic, land transport and marine industries, designing and producing bespoke solutions for specific market segments in complex environments. The company's genuine expertise in solar protection places it today as the world leader in this area and the development of customized entertainment & connectivity solutions allows it to rank as a competitive challenger in embedded systems. Vision Systems combines complementary skills in electronics, mechanics and composite to provide ever more innovative solutions for cost reduction, heightened safety and improved comfort.

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