

Centenary celebrations

IFAI commemorated its 100-year anniversary at the combined IFAI Expo and JEC Americas show last month. Kathlyn Swantko reports from Boston

“INNOVATE OR DIE!” This quote, attributed to Jack Welch, the former well-known chairman and CEO of GE, had particular relevance at this year’s IFAI Expo. Innovation was the major theme at the show, which celebrated IFAI’s 100-year anniversary. The Expo brought together 409 IFAI exhibitors and over 200 additional exhibitors from the co-located JEC Americas Composites Show and Conference. The joint show attracted over 6,000 attendees during the three day event, held from November w7-9 in Boston.

“With the focus on innovation, our new ShowStoppers competition led the way,” explained Bonnie Hanson, marketing director for IFAI. “The contest showcased more than 80 groundbreaking products, with attendees voting for their favorites.”

The Showstoppers Awards and the announcement of the association’s annual International Achievement Awards recognised a broad range of new developments in advanced textiles and innovative speciality fabric applications. In addition, attendees came to the show looking for partners to help them create new products. Hanson noted, “Attendees found solutions to very specific challenges, and exhibitors were engaged with highly qualified prospects for very specific applications.”

Nori Hill, product development director for IFAI exhibitor Texollini, said: “We were extremely pleased with this show. Several vendors came to our booth with new product ideas. Now, it’s up to us to see how we can create the fabrics that will fulfill their visions!”

Innovation in chemical and biological protective textiles was the topic highlighted at IFAI Expo’s Advanced Textiles Seminar. Eugene Wilusz, keynote speaker

for the event and senior scientist for WarSTAR at the US Army Natick Soldier RDE Center, explained: “While there is still room for improvement to make uniforms lighter in weight and more comfortable to wear, the real need is for innovative chemical and bio protection products help us stay ahead of the ‘bad guys’.”

Future Materials takes a look at several of the new innovative fibres, fabrics, technologies and component materials presented at the show...

Cooley introduced its new Enviroflex PE fabric. The fabric, available in a variety of weights (2.8 oz and 6 oz Frontlit versions and a 12 oz Blackout adaptation), is a PVC-free line of environmentally responsible digital media. It is designed to be 60% lighter than industry standards, making

installations easier, less expensive to transport, allowing for more graphics per roll, is hot air weldable, and is recyclable through the Cooley ReFlex Recycling Program.

ICF Mercantile/Glanzstoff introduced the first FR filament rayon fibre to the market. Along with its high-tenacity abrasion-resistant quality, the new Viscont FR fibre provides flame-resistant non-melt qualities in a comfortable, next-to-skin fabric that is biodegradable and contains outstanding technical values for applications in military apparel, industrial, and the home furnishings markets. Viscont FR is also available with or without an insect-repellent finish.

SSM Industries: As the industry called for more comfortable options in safety apparel, SSM Industries, based in



Cooley Group worked with Dow to develop the stadium wrap for London’s Olympic Stadium, containing the 100% recyclable Enviroflex polyethylene-based print media. It is printed in UV-curable inks, which contain little or no VOCs (volatile organic compounds)

Spring City, Tennessee, and Cotton Inc moved to engineer a fabric for use in the industrial, military, fire service, and racing markets. Pro-CFR + TransDRY was modified as a comfortable alternative to other moisture management fabrics in the marketplace. Safety professionals benefit from the combination of three key technologies: Pro-CFR flame resistant technology, TransDRY moisture management technology for faster drying, and antimicrobial/anti-odour technologies. The TransDRY technology is engineered into the fabric and will not wash out.

Texollini, the Long Beach, California-based circular knitter showcased several new fabrics at the show. Highlights from its Fire Stomp line of FR fabrics utilise ICF/Glanzstoff's Viscont FR filament rayon. Texollini presented a 93% rayon FR/7% Lycra knit blend in two jersey constructions, a mesh and a plain knit version. The company also featured a multi-blend, union-dyed jersey fabric, made of 39% rayon/39% modacrylic/16% wool/6% nylon, for flight-deck t-shirt and mid-weight applications.

Glen Raven's GlenGuard Hi-Vis Anti-Stat material, introduced earlier this year, is now available in mesh constructions and is the only flame resistant, anti-static mesh that meets ANSI standards for high visibility. Work vests made of the new GlenGuard mesh fabric, made using carbon fibre, are available from protective clothing supplier, Lakeland Industries, Inc. The market development manager for Lakeland said that Glen Raven Performance Textiles has filled a significant need by developing this flame resistant fabric that meets ANSI high-vis standards.

Graniteville, which specialises in coated fabrics, featured its Force FR a 100% polyester vinyl-coated fabric on the face and back, used for liner/plenum, single-layer exterior, utility/safety, and disaster relief products. The fabric is specifically developed to meet the needs of the military for lighter-weight fabrics. Force FR fabric is lightweight, strong, durable, and fire-resistant to ASTM D6413 standards. The fabric is also available in "green" anti-microbial, multiple covers, reversible, and blackout versions.

Bondcote: In response to the military's continued focus on energy efficiency, Bondcote launched its new Extreme Insulating Fabrics to the USA and interna-



Two fabric constructions (a plain knit jersey and a mesh) from Texollini's new Fire Stomp collection, made using a blend of ICF/Glanzstoff's new Viscont FR filament rayon yarn and Lycra



Attendees reviewing fabrics in IFAI's sourcing centre

tional markets at the show. The line of lightweight, flame resistant, mold/mildew resistant, water repellent, and compressible fabrics are constructed with a layer of 3M Thinsulate Platinum Insulation. Designed specifically for tent and shelter applications, tests have proven a 7.2 effective R-value and a reduction in energy consumption by 51%.

Velcro USA showcased its new Press-Lok self-engaging fastening system that is being targeted for use in bags, pouches and soft packaging as the "smart" closure alternative for the traditional zip-lock systems. The benefits of Press-Lok are said to include easy closure alignment, audible and tactile open and close, and secure closure features.

EY Technologies manufactures custom engineered yarns for smart solutions in many applications. At the JEC Americas Composites Show, one of the most

interesting products was EY's "blast-proofing" yarn for reinforcing concrete and resisting fragmentation during an explosion. The 3-inch yarns are made from carbon or nylon and are coated with EY Technologies' proprietary coating. The yarn-embedded concrete is currently being tested in Turkey, USA and South America.

AGY Advanced Materials, a leading global producer of glass fibre yarns and high-strength glass fibre reinforcements, introduced S-3 UHM, a new S-Glass fibre. The new fibre, developed using AGY's advanced Modular Direct Melt technology, has a tensile modulus of 99 GPa (14,359 ksi), which is over 40% higher than the modulus of traditional E-Glass fibre, and provides a high tensile modulus glass fibre alternative as a component of composites used for a broad range of applications, including electrical and thermal insulation, and high impact absorption.

International Achievement Award winners

Tensile Structures, Under 600sqm

Excellence: G.H. Bruce LLC (US) for “Where Flying Fishes Play”

Outstanding Achievement: Lawrence Fabric & Metal Structures Inc (US) for St. Louis Zoo Sea Lion Arena; Fabric Architecture Ltd (UK) for Coopers Edge Primary School

Tensile Structures, 600-2300sqm

Excellence: Structurflex LLC (US) for Columbus Commons Bicentennial Pavilion

Outstanding Achievement: Lonas Lorenzo SA de CV (Mexico) for Santa Fe

Tensile Structures, More Than 2300sqm

Excellence: Hightex Group PLC (UK) for BC Place - Inflated Retractable Roof

Outstanding Achievement: Hightex Group PLC (UK) for “Olympiysky” National Sports Complex Kiev - Radial Cable System with Fixed Tensile Roof; Taiyo Europe GmbH (Germany) for Comercial Centre Vergers De La Plaine

Frame-Supported Structures

Excellence: Architen Landrell Associates (UK) for Soundforms; Birdair Inc (US) for Centro Ambar

Outstanding Achievement: Beijing N&L Fabric Technology Co, Ltd (China) for Ho-Feng Plaza Exhibition Hall, Ning-Bo China and Bei-Bei Stadium, Chong Qing

Air Structures

Excellence: Taiyo Europe GmbH (Germany) for AWM Carport Munich

Outstanding Achievement: Lindstrand Technologies (UK) for Bahnhof MDC Server Hall

Awnings and Canopies, Less Than 112sqm

Excellence: Awnings of Hollywood Inc (US) for Yogurt UR Way

Outstanding Achievement: Queen City Awning (US) for Residence Inn at the Phelps; Capitol Awning Company (US) for Temple Emanu-El

Commercial Awnings and Canopies, More Than 112sqm

Excellence: Fabritecture (Australia) for Halo Night Club

Outstanding Achievement: Fabric Architecture Ltd (UK) for Hallmark Crown Center; Hoover Canvas Products Co (US) for PGA National Residence

Residential Awnings and Canopies, Less Than 112sqm

Excellence: Shades (Thailand) Co., Ltd for Minimalist Residential Awnings

Outstanding Achievement: Sunmaster of Naples Inc (US) for Dual-Purpose Breezy Beach Patio Awning

Retractable Awnings and Canopies

Excellence: Auvents OmbraSole (Canada) for President; Uni-Systems LLC (US) for Juvia

Restaurant in Miami Beach

Outstanding Achievement: Retractableawnings.com Inc (US) for Gigantic Retractable Patio Cover System and Retractable Pergola Cover Systems

Tensioned Awnings and Canopies

Excellence: Sollertia Inc (Canada) for Circus School Entrance Canopy

Outstanding Achievement: Duvall Design Inc (US)

for Breaking Wave; J & J Carter Ltd (UK) for The Malls – Basingstoke

Free-Standing Structures, Under 112sqm

Excellence: Base Structures Ltd (UK) for Campbell Park Stage Canopy

Outstanding Achievement: Lawrence Fabric & Metal Structures Inc (US) for Mark’s Park Amphitheatre

Free-Standing Structures, More Than 112sqm

Excellence: Architen Landrell Associates (UK) for Enniskillen Hospital Ambulance Canopy

Outstanding Achievement: Light Weight Structures (Australia) for Wide Span Structure; MakMax Australia (Australia) for South Hedland Town Square and Cabratta Bowling Club

Exterior Shades and Screens

Excellence: Tropical J’s Inc (US) for Trump

Outstanding Achievement: Cool Awnings (New Zealand) Ngake Street

Shade Structures

Excellence: Tension Structures (US) for West Mesa Park and Ride

Outstanding Achievement: Tension Structures (US) for Fashion Valley Mall; David’s Custom Trimmers (Australia) for SuperYacht Awnings

Multiple Modular Structures

Excellence: Awnings of Hollywood Inc (US) for Rusty Pelican

Outstanding Achievement: Lonas Lorenzo SA de CV (Mexico) for Now Secret

Fabric Graphics

Excellence: Lawrence Fabric & Metal Structures Inc (US) for St. Louis Science Center

Outstanding Achievement: Rainier Industries (US) for Dow Olympic Stadium Wrap

Fabric Art

Excellence: Transformit (US) for “Quinceañera” Company Birthday Party

Outstanding Achievement: Fabric Architecture Ltd (UK) for MediaCity UK

Powerboat Exteriors

Excellence: Marine Concepts (US) for 340 Nortech

Outstanding Achievement: Riverside Covers (US) for Express Helm Enclosure; Canvas Experts Inc (US) for Stars & Stripe

Sailboat Exterior

Excellence: Bennett Custom Canvas Inc (Canada) for Creation

Outstanding Achievement: Iverson’s Design (US) for Catalina 36 Enclosure; Custom Marine Canvas (US) for Blue Too

Marine Interior Upholstery

Excellence: David’s Custom Trimmers (Australia) for Interior Lounge and Helm Seat

Outstanding Achievement: North Beach Marine Canvas (US) for Gypsy Caravan

Marine Exterior Upholstery

Excellence: Marine Concepts (US) for 43 Dragon

Outstanding Achievement: Sand Sea and Air Interiors Inc (US) for Hydra Sport 41’ New Exterior Upholstery; Custom Marine Canvas (US) for Spartan

Party Tent Rental, Less Than 300 sqm

Excellence: Party Reflections (US) for Traditional Carolina Wedding

Outstanding Achievement: Eventstar Structures Corp (US) for Houston’s Wedding and Celebrity Dinner Gala

Corporate Tent Rental

Excellence: ROEDER Zelt-und Veranstaltungsservice GmbH (Germany) for INNOSCENE 11 - Event for Events

Outstanding Achievement: ROEDER Zelt-und Veranstaltungsservice GmbH (Germany) for CHIO World Equestrian Festival 2011

Tent Manufacturing and Design

Excellence: Röder HTS Höcker GmbH (Germany) for AUDI Lounge

Outstanding Achievement: Baytex Manufacturing Co Ltd (New Zealand) for Circus Tent; ROEDER Zelt-und Veranstaltungsservice GmbH (Germany) for 125th Birthday of the Automobile, “Stuttgart’s Magic Moments”

Interior Display

Excellence: Fabric Images Inc (US) for Organic Modular Exhibit

Outstanding Achievement: Fabric Images Inc (US) for Dynamic Journey to the Deep Space Adventure

Commercial interiors

Excellence: FTL Design Engineering Studio (US) for Louis Vuitton Island Masion

Outstanding Achievement: Fabric Architecture Ltd (UK) for Mykonos Grace

Geosynthetic Projects

Excellence: Flint Industries (US) for West Ship Island Northshore Restoration

Outstanding Achievement: TenCate Geosynthetics (US) for Transformation of Wastewater Impoundment Into Qingjing Lake at Sino-Singapore Tianjin Eco-City

Auto and Transportation Upholstery

Excellence: Douglas Auto and Marine Upholstery (2008) Ltd (New Zealand) for Commodore Ute Residential Upholstery

Excellence: Nickle Ink Upholstery (US) for Antique Sectional

Outstanding Achievement: Material Girl Upholstery (US) for Claw Couch

Safety and Technical Projects

Excellence: W A Coppins Ltd (New Zealand) for Para Sea Anchor - Ship Steerage Control Project

Outstanding Achievement: Base Structures Ltd (UK) for Triple Membrane Biogas Holder

Miscellaneous

Excellence: Hightex Group PLC (UK) for B C Place - ETEF Façade; Structurflex Ltd (New Zealand) for Waka Maori

Outstanding Achievement: SEI Industries Ltd (Canada) for Bulk Aviation Transport Tank (BATT); Sand Sea and Air Interiors Inc (US) for Palm Shade