



Joint News Release

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BASF, Flex-N-Gate, L&L Products and Toyota win the SPE Automotive Innovation Award for the 2022 Toyota Tundra composite seatback design

WYANDOTTE, MI and ROMEO, MI, November 2, 2022 – <u>BASF</u>, <u>L&L Products</u>, <u>Flex-N-Gate</u> and <u>Toyota</u> have won the Society of Plastics Engineers (SPE) Automotive Innovation Award with the composite seatback design on the 2022 Toyota Tundra™. The seat structure is 20% lighter compared to the previous model. This application also won the Altair Enlighten Award in August.

"This award is a validation of pultrusion composite technology and how it helps us achieve our lightweighting and cost objectives. Thank you SPE for this honor," said Vik Bhatia, Group Manager for Engineering Design Chassis at Toyota.

This is the first interior application to use L&L Products Continuous Composite Systems (CCS) technology with BASF's polyurethane pultrusion system Elastocoat 74850. CCS is a fiber-reinforced composite carrier with highly engineered sealants and adhesives in a two-dimensional profile. It was overmolded with BASF's Ultramid® B3ZG7 CR, an impact modified polyamide 6, to create the 3D share of the 60% seatback.

"Toyota wanted greater functionality with their seating system and we were able to accomplish that by taking an all-steel assembly that contained 60 stamped and welded parts and integrating it into four composite parts, "said Hank Richardson, Product

Engineering Manager, L&L Products.

"The distinctive design of the injection overmolded pultruded beam in the seat structure passed all relevant crash test requirements and makes pultrusion technology a clear choice for lightweight, cost-effective solutions and integrated functionality," said Kipp Grumm, Technology Leader for Thermoplastic Composites, Performance Materials, BASF Corporation.

Ultramid and Elastocoat are registered trademarks of BASF SE

Continuous Composite Systems (CCS) is a trademark of L&L Products

Tundra is a trademark of Toyota

About BASF

BASF Corporation, headquartered in Florham Park, New Jersey, is the North American affiliate of BASF SE, Ludwigshafen, Germany. BASF has more than 16,700 employees in North America and had sales of \$25.9 billion in 2021. For more information about BASF's North American operations, visit www.basf.com/us.

At BASF, we create chemistry for a sustainable future. We combine economic success with environmental protection and social responsibility. Around 111,000 employees in the BASF Group contribute to the success of our customers in nearly all sectors and almost every country in the world. Our portfolio comprises six segments: Chemicals, Materials, Industrial Solutions, Surface Technologies, Nutrition & Care and Agricultural Solutions. BASF generated sales of €78.6 billion in 2021. BASF shares are traded on the stock exchange in Frankfurt (BAS) and as American Depositary Receipts (BASFY) in the U.S. Further information at www.basf.com.

About L&L Products

L&L Products is a technology-driven business-to-business company with unique expertise in static sealing, acoustics, vibration reduction, structural reinforcements, and composite components for automotive, aerospace, commercial vehicle and other industrial applications. Today, L&L has over 1300 employees worldwide, locations in 16 countries, and 9 manufacturing facilities. For more information visit www.llproducts.com.

L&L Products has recently successfully implemented the CCS Seat Structure on the 2022 Toyota Tundra. The seat structure is the first interior application for L&L's CCS technology, using partner BASF's Elastocoat polyurethane pultrusion system.