Adhesives & Sealants

Weekly Intelligence Report

2026-06-20 | 21 articles | 9 countries

troy-technical.jp

This Week's Keyword

AI/EV Materials

Critical for next-gen computing & mobility

21	9	Until 2030	1.5-4 kg
articles	countries	supply	/100 kWh
Total Articles Analyzed	Source Countries	ABF Supply Secured	EV Battery Gap Filler

All 21 Articles This Week — 5-Axis Evaluation Matrix

How to read columns — Tech Novelty: degree of breakthrough Market Proximity: closeness to commercialization Market Impact: industry-wide effect Data Reliability: quantitative data & peer review US/EU Relevance: direct impact on US/European companies & supply chains

#	Article Title	Type	Tech Novelty	Market Proximity	Market Impact	Data Reliability	US/EU Relevance	Summary
#01	Resonac Encapsulant Patent	Corporate Strategy	●●●●○	●●●●○	●●●●○	●●●○○	●●●●○	Resonac's liquid encapsulant patent upheld for 2.5D AI semiconductor packages, enhancing reliability.
#02	Ajinomoto ABF Supply	Corporate Strategy	●●○○○	●●●●●	●●●●●	●●●○○	●●●●●	Ajinomoto secures ABF supply capacity for AI chip demand until 2030, prioritizing expansion.
#03	Henkel SA Carbon Neutral	Corporate Strategy	●●○○○	●●●●●	●●○○○	●●●●○	●●●○○	Henkel South Africa's Alrode plant achieves carbon neutrality with 1.8 MWp solar installation.
#04	TPO/IBOA-Free Adhesives	New Product	●●●○○	●●●●○	●●●○○	●●●○○	●●●●●	Major adhesive companies introduce TPO/IBOA-free UV-curable adhesives for medical/structural bonding.
#05	Henkel Sagrada Familia	Case Study	●●○○○	●●●●●	●●○○○	●●●●○	●●●●●	Henkel's Loctite EA 9497 structural adhesive used 24 tons for Sagrada Familia central towers.
#06	BASF Solid-State Binder	New Product	●●●●○	●●●○○	●●●●○	●●●○○	●●●●●	BASF unveils Oppanol® N PLUS PIB binder for next-gen EV solid-state batteries, enhancing stability.
#07	Sihl Security Label	New Product	●●●○○	●●●●○	●●●○○	●●○○○	●●●○○	Sihl launches dual-function security label material, enhancing anti-counterfeiting with overt/covert features.
#08	Henkel Sustainable Packaging	New Product	●●●○○	●●●●○	●●●○○	●●●○○	●●●●●	Henkel showcases low-CO_2 hot melts and solvent-free laminating adhesives for sustainable packaging.
#09	AI Optical-Logic Report	Analysis	●●●●○	●●○○○	●●●●●	●●●○○	●●●●●	Report highlights AI-driven optical-logic integration and hybrid bonding for increased interconnect density.
#10	Automotive Lightweighting	Market Overview	●●○○○	●●●●●	●●●●○	●●○○○	●●●●○	Adhesives are critical for automotive lightweighting, especially in EV battery packs and multi-material BIW.
#11	Bostik Recyclable Adhesive	New Product	●●●●○	●●●●○	●●●○○	●●●○○	●●●●●	Bostik's Kizen® Miles 9.0 wins award for breakthrough recyclable hygiene adhesive with 75% renewable content.
#12	US TIM Market Growth	Market Overview	●○○○○	●●●●●	●●●●○	●●●○○	●●●●●	U.S. TIM market to see substantial growth by 2033, driven by EV battery pack gap filler adoption.

#	Article Title	Type	Tech Novelty	Market Proximity	Market Impact	Data Reliability	US/EU Relevance	Summary
#13	Resonac Patent (IBTimes)	Corporate Strategy	●●●●○	●●●●○	●●●●○	●●●○○	●●●●○	Resonac secures key patent on liquid encapsulant for 2.5D AI chips, bolstering reliability and market position.
#14	3M VHB 4920 Tape	New Product	●●○○○	●●●●●	●●●○○	●●●○○	●●●●●	3M VHB 4920 acrylic foam tape delivers high-strength bonding for AI servers and EV transport systems.
#15	Resonac CEO AI/China	Corporate Strategy	●●○○○	●●●●●	●●●●●	●●●○○	●●●●●	Resonac CEO navigates soaring AI chip demand and China supply chain risks, bolstered by patent ruling.
#16	H.B. Fuller Sustain.	Corporate Strategy	●●●○○	●●●●○	●●●○○	●●●●○	●●●●●	H.B. Fuller unveils 2030 sustainability targets, committing 60% innovation to sustainable solutions.
#17	AMS Extends HB Fuller	Corporate Strategy	●○○○○	●●●●●	●●○○○	●●●●○	●●●●●	Advanced Medical Solutions extends deadline for H.B. Fuller takeover offer to July 2, 2026.
#18	3M New STEM	Research	●●●●○	●●○○○	●●●○○	●●●●○	●●●●●	3M accelerates product innovation with new world-class STEM for atomic-scale material analysis.
#19	Ajinomoto ABF Price	Corporate Strategy	●●○○○	●●●●●	●●●●●	●●●○○	●●●●●	Ajinomoto's ABF price stability strategy amid AI demand prompts investor re-evaluation of portfolio.
#20	Ajinomoto ABF Supply	Market Overview	●●○○○	●●●●●	●●●●●	●●●○○	●●●●●	Ajinomoto's critical chip film, ABF, faces supply test as escalating AI demand mounts pressure.
#21	PU Adhesives Market	Market Overview	●○○○○	●●●●●	●●●○○	●●○○○	●●●●○	Polyurethane adhesives market expands, driven by automotive electronics miniaturization and thermal management.

●●●●○ High ●●●○○ Med-High ●●○○○ Med ●○○○○ Low | Yellow highlight = featured article

Three Questions That Demand Your Decision This Week

❶ Is your AI chip supply chain exposed to single-source material risks?

Japanese firms like Ajinomoto (ABF) and Resonac (encapsulants) dominate critical AI semiconductor materials. With demand surging, are your procurement strategies diversified enough to prevent bottlenecks and price volatility?

❷ Does your EV battery roadmap account for next-gen material breakthroughs?

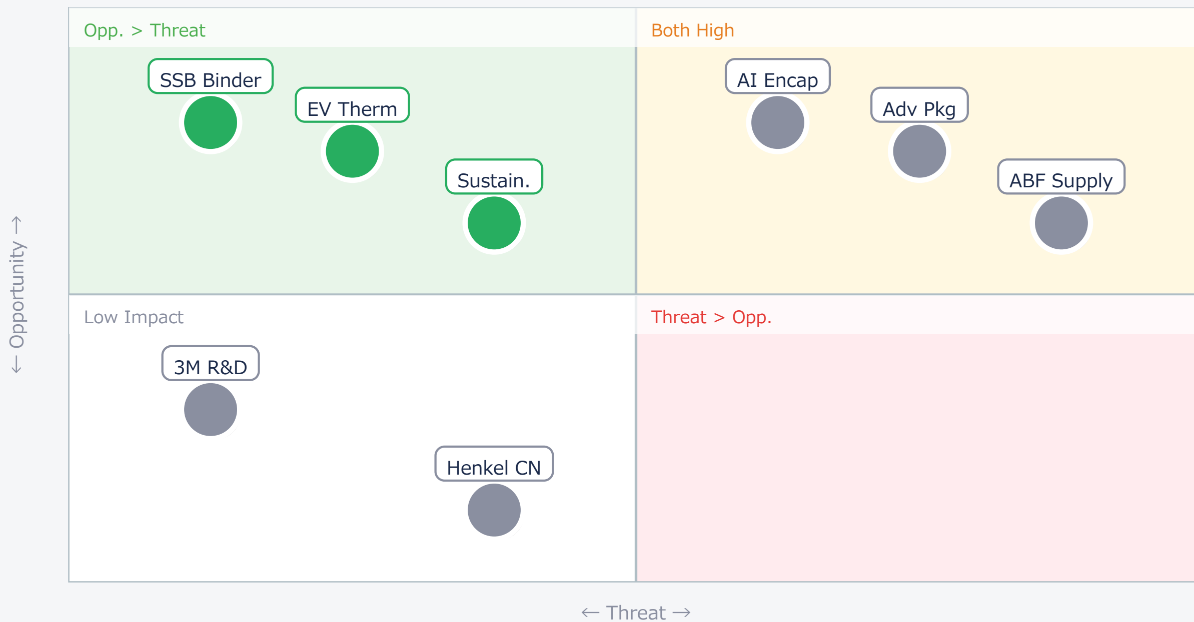
BASF's new PIB binder for solid-state batteries signals a critical enabler for future EV performance. Are your R&D; and partnership strategies positioned to integrate such advanced materials for competitive advantage?

❸ Are your product portfolios compliant with evolving EU sustainability regulations?

New TPO/IBOA-free adhesives and recyclable hygiene solutions are market responses to stricter EU chemical and waste directives. Is your product development proactively addressing these regulatory shifts to avoid market exclusion?

Opportunities vs. Threats for US/European Companies

Opportunity vs. Threat Matrix for US/European Companies



Item	Quadrant	↑ Opportunity	↓ Threat
● AI Encap	Critical	License/Compete	IP Dominance
● ABF Supply	Critical	Alternative Dev	Supply Bottleneck
● Adv Pkg	Critical	Next-gen Tech	Lagging Innovation
● SSB Binder	Opp.	EV Performance	Missed Innovation
● Sustain.	Opp.	Market Access	Regulatory Risk
● EV Therm	Opp.	Material Supply	Competitor Gains
● 3M R&D;	Ref.	Future Products	R&D; Gap

● Henkel CN	Ref.	Brand Value	ESG Pressure

Deep Dive ① — Ajinomoto Secures ABF Supply for AI Chips

#02 | 2026/06/15 | GIGAZINE | Tech Novelty●●○○○ Proximity●●●●● Market Impact●●●●● Data Reliability●●●○○ US/EU Relevance●●●●●

Ajinomoto announced its capability to meet surging demand for Ajinomoto Build-Up Film (ABF), a critical interlayer dielectric for advanced semiconductor packaging, until 2030. The company prioritizes production expansion over price hikes to support exponential AI chip growth.

ABF is essential for high-density integration of chips and PCBs, offering superior electrical properties and thermal stability for high-speed signal transmission and thermal management in AI processors. This strategy aims to stabilize the global AI chip supply chain.

> ▶ Strategic Analyst's Perspective
>
> Strategic Analyst's Perspective: Ajinomoto's commitment to stable ABF supply is a critical development. While the tech novelty is low, the market impact is immense, as ABF is a near-monopoly material. The stated capacity expansion and price stability are realistic given Ajinomoto's long-term strategic focus, but actual execution will be key. [Opportunity] for US/EU OEMs and device manufacturers to secure stable supply for their AI hardware roadmaps. [Threat] for US/EU materials & component suppliers who lack alternative ABF technologies or are heavily reliant on Ajinomoto's pricing. Next actions: [Procurement] Immediately engage Ajinomoto for long-term supply agreements. [Strategy] Evaluate potential for domestic/alternative ABF development or partnerships by Q3 2026.

Deep Dive ② — Resonac's Encapsulant Patent for 2.5D AI

#01 | 2026/06/17 | Resonac | Tech Novelty●●●●○ Proximity●●●●○ Market Impact●●●●○ Data Reliability●●●○○ US/EU Relevance●●●●○

Resonac's patent for a liquid encapsulant critical for 2.5D AI semiconductor packages has been upheld by the Japan Patent Office. This technology resolves reliability issues like stress and crack formation caused by thermal expansion differences between chip and substrate.

The encapsulant precisely controls thermal expansion coefficient and elastic modulus, mitigating mechanical stress at interfaces. This innovation is crucial for robust, high-performing AI hardware, reinforcing Resonac's leadership in advanced semiconductor materials.

> ▶ Strategic Analyst's Perspective
>
> Strategic Analyst's Perspective: Resonac's patent validation for 2.5D AI encapsulants is a significant win, solidifying their IP in a high-growth, high-value segment. The technical claims are realistic, addressing a fundamental challenge in advanced packaging. Technical barriers remain in scaling production and customizing for diverse 2.5D architectures. [Opportunity] for US/EU OEMs to partner with Resonac for reliable AI chip integration. [Threat] for US/EU materials suppliers who may face IP infringement risks or struggle to develop competitive alternatives without licensing. Next actions: [Legal/IP] Conduct immediate IP landscape analysis for 2.5D encapsulants. [R&D;] Benchmark Resonac's solution and explore alternative low-stress encapsulant chemistries by Q4 2026.

Deep Dive ③ — BASF's PIB Binder for Solid-State Batteries

#06 | 2026/06/16 | SpecialChem | Tech Novelty●●●●○ Proximity●●●○○ Market Impact●●●●○ Data Reliability●●●○○ US/EU Relevance●●●●●

BASF introduced Oppanol® N PLUS, a new high-performance polyisobutene (PIB) binder designed for next-generation EV solid-state batteries. Its high elasticity and consistent quality contribute to battery lifetime and stability.

The binder holds components together and compensates for mechanical stress within cathodes, anodes, or electrolytes, addressing a key challenge in solid-state battery commercialization by preventing delamination and crack formation during charge-discharge cycles.

> ▶ Strategic Analyst's Perspective
>
> Strategic Analyst's Perspective: BASF's Oppanol® N PLUS is a promising development, directly tackling a critical hurdle for solid-state battery commercialization: mechanical stability. The claims of high elasticity and consistent quality are plausible, but real-world performance in full-scale solid-state cells needs validation. Technical barriers include integration with various solid electrolyte chemistries and long-term cycling stability. [Opportunity] for US/EU EV OEMs and battery manufacturers to accelerate their solid-state battery roadmaps by adopting this binder. [Threat] for existing binder suppliers who lack high-performance solutions for solid-state applications. Next actions: [R&D;] Initiate evaluation of Oppanol® N PLUS for solid-state battery prototypes immediately. [Business Dev] Explore strategic partnerships with BASF for early access and co-development by Q3 2026.

Other Notable Articles

Henkel Loctite EA 9497 Structural Adhesive (Henkel)
Tech Novelty●●○○○ Proximity●●●●● Market Impact●●○○○

Henkel's adhesive enabled modular construction of Sagrada Familia towers, showcasing modern materials in architecture.

Sihl Launches Dual-Function Security Label Material (Labels & Labeling)
Tech Novelty●●●○○ Proximity●●●●○ Market Impact●●●○○

Sihl's new label integrates overt/covert features, offering enhanced anti-counterfeiting for brand protection.

3M VHB 4920 Acrylic Foam Tape Delivers High-Strength Bonding (Yousan New Materials)
Tech Novelty●●○○○ Proximity●●●●● Market Impact●●●○○

3M's VHB 4920 tape offers high-strength, invisible bonding for AI servers and EV transport, replacing mechanical fasteners.

Recommended Actions This Week

Action recommendations based on article evaluation matrix and opportunity/threat analysis.

Immediate (this week)

- [Procurement] Initiate discussions with Ajinomoto for long-term ABF supply agreements to mitigate AI chip material risks.
- [Legal/IP] Conduct an urgent IP landscape analysis for 2.5D semiconductor encapsulants, focusing on Resonac's patent.
- [R&D;] Begin preliminary evaluation of BASF's Oppanol® N PLUS binder for solid-state battery prototypes.

Short-term (1 month)

- [Strategy] Assess the competitive landscape for TPO/IBOA-free and recyclable adhesives, identifying potential partners or acquisition targets.
- [Business Dev] Explore strategic partnerships with BASF for early access and co-development of solid-state battery materials.
- [Procurement] Review current thermal interface material suppliers for EV battery packs, ensuring capacity and performance for future demand.

Medium-long term (quarter+)

- [R&D;] Investigate alternative ABF technologies or domestic production capabilities to reduce reliance on single-source suppliers by Q4 2026.
- [Strategy] Develop a roadmap for integrating optical-logic and hybrid bonding technologies into future AI/HPC product designs, targeting 2027-2028.
- [Executive] Establish clear ESG targets for material sourcing and manufacturing processes, aligning with EU regulations and global sustainability trends.

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Adhesives_Sealants — Selected Articles

Date: 2026-06-20

Articles: 21

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#11 Bostik's Kizen® Miles 9.0 Wins INDEX™ 26 Award for Breakthrough Recyclable Hygiene Adhesive with 75% Renewable Content

#12 U.S. Thermal Interface Materials Market to See Substantial Growth by 2033, Driven by EV Battery Pack Gap Filler Adoption

#13 Resonac Secures Key Patent on Liquid Encapsulant for 2.5D AI Chips, Bolstering Reliability and Market Position

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#19 Ajinomoto's ABF Price Stability Strategy Amid Surging AI Demand Prompts Investor Re-evaluation of Portfolio Focus

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Resonac's Liquid Encapsulant Patent Upheld for 2.5D AI Semiconductor Packages, Ensuring Enhanced Reliability

Published June 17, 2026 Resonac Japan

OVERVIEW

Resonac announced that the Japan Patent Office upheld the validity of its Japanese patent (No. 7687499) for a liquid encapsulant critical for 2.5D semiconductor packages in generative AI applications. This technology effectively resolves reliability issues such as stress and crack formation caused by thermal expansion differences between chip and substrate. The sustained patent validates Resonac's technological leadership in advanced semiconductor materials, paving the way for more robust and high-performing AI hardware.

IN DEPTH

Key Findings

Resonac announced on June 17, 2026, that the Japan Patent Office affirmed the validity of its Japanese patent (No. 7687499) for a liquid encapsulant used in 2.5D semiconductor packages for generative AI applications. This ruling strengthens the company's position as a key innovator in materials critical for high-performance computing.

Technical Details

The patented technology addresses a fundamental reliability challenge in 2.5D semiconductor packaging: stress and crack generation due to thermal expansion coefficient mismatches between different materials. Resonac's solution involves an optimized resin and additive composition that precisely controls the thermal expansion coefficient and elastic modulus within a specific range. This enables the encapsulant to effectively mitigate mechanical stress at the interfaces between semiconductor chips and package substrates, thereby ensuring long-term durability and stable operation in demanding environments. Such meticulous control is crucial for maintaining the integrity of complex, multi-layered packages.

Background & Context

The burgeoning demand for generative AI has driven a rapid evolution in semiconductor packaging, with 2.5D and 3D integration becoming standard for high-performance AI processors. These advanced packaging architectures require encapsulants that can withstand extreme thermal cycling and high power densities without degradation. Traditional encapsulants often struggle to meet these stringent requirements, leading to potential reliability bottlenecks. Resonac's breakthrough offers a robust solution, facilitating the continued miniaturization and performance enhancement of AI semiconductors. This innovation is particularly timely as the industry seeks to scale up production of more powerful and reliable AI computing units.

Strategic Significance & Outlook

The patent's affirmation reinforces Resonac's leadership in the rapidly expanding AI semiconductor materials market. The company plans to further accelerate its research and development in high-functional materials to support the semiconductor industry's advancement. As data center power consumption increases and edge AI devices become more prevalent, the demand for high-dissipation, durable encapsulants will only intensify, making Resonac's technology a pivotal enabler for future generations of AI hardware. This intellectual property offers Resonac a strong competitive advantage and is expected to attract significant interest from semiconductor manufacturers globally.

Source: https://www.resonac.com/news/2026/06/17/3865.html

Ajinomoto to Secure ABF Supply Capacity for AI Chip Demand Until 2030, Prioritizing Production Expansion Over Price Hikes

Published June 15, 2026 GIGAZINE Japan

OVERVIEW

Ajinomoto announced its capability to meet the surging demand for Ajinomoto Build-Up Film (ABF), a critical interlayer dielectric for advanced semiconductor packaging, until 2030, driven by the exponential growth in AI chip consumption. Instead of raising prices, the company plans to expand its production capacity significantly. ABF remains essential for high-density integration of chips and PCBs, with its complementary use alongside alternative materials like glass anticipated.

IN DEPTH

Key Findings

Ajinomoto announced on June 15, 2026, its confidence in meeting the escalating demand for Ajinomoto Build-Up Film (ABF), a crucial interlayer insulating material for advanced semiconductor packaging substrates, until 2030. Despite the explosive growth in AI chip demand, the company is committed to expanding production capacity rather than resorting to price increases to manage supply.

Technical Details

ABF is a laminated material integral to semiconductor package substrates, providing electrical insulation between multiple circuit layers while enabling the formation of intricate fine wiring. For high-integration, high-functionality semiconductors like AI chips, ABF's superior electrical properties, including low dielectric constant and low dissipation factor, along with excellent thermal stability, are critical for high-speed signal transmission and effective thermal management. These properties are paramount for achieving high-density integration between the chip and the printed circuit board. Ajinomoto has meticulously optimized its manufacturing process to ensure both quality and production efficiency. While new materials like glass are being explored for next-generation semiconductor substrates, ABF is expected to complement these innovations, further enhancing its functionality and market value when used in conjunction with them.

Background & Context

The rapid advancement of generative AI technologies has fueled an unprecedented surge in demand for high-performance AI semiconductors in data centers and edge devices. Semiconductor manufacturers are increasingly adopting chiplet technology and high-density packaging techniques to integrate more transistors and enable faster data processing. ABF is a foundational material that maximizes the performance of these advanced packaging technologies, making its stable supply vital for the growth of the entire semiconductor industry. The importance of supply chain stability has been underscored by recent global chip shortages, making Ajinomoto's commitment to supply continuity particularly significant for the industry.

Strategic Significance & Outlook

Ajinomoto's strategy of expanding production capacity while maintaining prices positions it competitively against rivals who might opt for price hikes. This commitment to stable supply until 2030 offers significant assurance to major semiconductor clients, fostering stronger, long-term partnerships. As AI technology continues to evolve, the demand for high-performance materials like ABF is projected to grow continuously. Ajinomoto aims to sustain its leadership in this critical market through ongoing technological innovation and robust supply chain reinforcement. The company's strategic approach is expected to contribute significantly to the overall stability and advancement of the global semiconductor industry, supporting the broader digital transformation.

Source: https://gigazine.net/gsc_news/en/20260615-ajinomoto-abf-product-more/

Collected: June 19, 2026 | Automated Research System (Gemini API)

Henkel Alrode: 1.8 MWp Solar Powers South African Plant to Carbon Neutrality

Published Published June 11, 2026 Engineering News 南アフリカ

OVERVIEW

Henkel South Africa's Alrode production facility has successfully achieved carbon neutrality as of June 2026, reaching net-zero carbon emissions in its operations. This significant milestone was driven by the integration of a 1.8 MWp on-site solar system, which now provides 65% of the plant's electricity, complemented by a strategic shift from fossil fuels to high-efficiency electric alternatives. The achievement underscores Henkel's deep commitment to embedding sustainability within its energy-intensive adhesive technology manufacturing processes.

IN DEPTH

Background & Context

Globally, there is an escalating imperative for industries to address climate change and reduce their carbon footprint. Manufacturers are increasingly setting ambitious targets for emissions reduction across their entire supply chains and accelerating the transition to renewable energy. Henkel, with its ambitious goal to achieve climate-positive operations across all its businesses by 2040, views the Alrode plant's achievement as a crucial step towards this overarching objective. Given that adhesive technology manufacturing is an energy-intensive sector, achieving carbon neutrality in a large-scale facility like Alrode sends a powerful message and sets a precedent for sustainable practices within the broader industry.

Key Findings

Henkel South Africa's Alrode production facility has successfully achieved carbon neutrality, operating at net-zero emissions since June 2026. This significant milestone was driven by the implementation of a substantial solar energy installation and a strategic shift away from fossil fuels in its manufacturing processes.

Technical & Implementation Details

The core of the Alrode plant's carbon neutrality achievement is a 1.8 MWp (megawatt-peak) solar installation situated on-site, which now provides approximately 65% of the factory's electricity needs from renewable sources. The remaining power requirements are met through the procurement of renewable energy from South African utility providers and the utilization of verified carbon offset credits. Additionally, the plant undertook a comprehensive transition from fossil fuels, previously used for heating and other processes, to high-efficiency electric alternatives. This integrated approach has effectively eliminated the facility's direct greenhouse gas emissions, establishing a fully carbon-neutral operational footprint.

Strategic Significance & Outlook

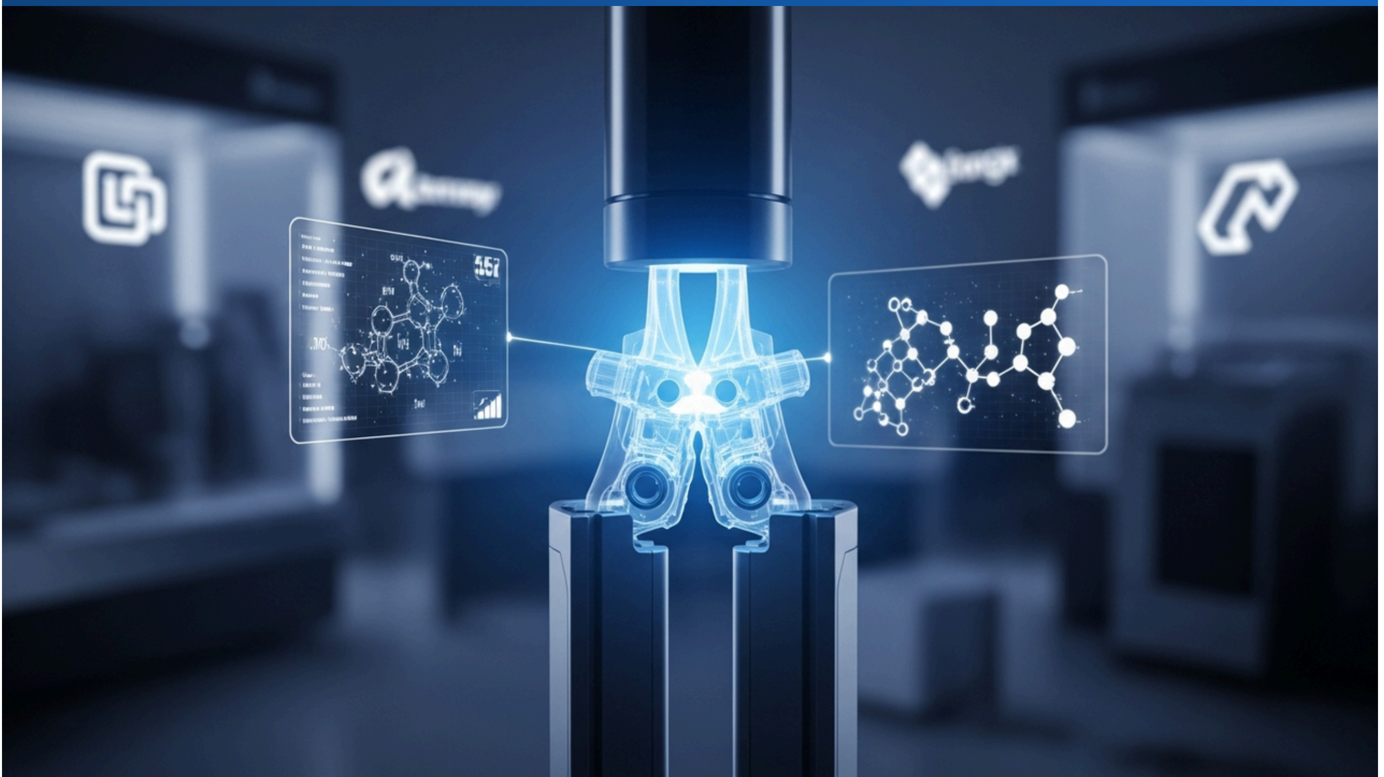
The carbon neutrality of the Alrode plant serves as a beacon of success within Henkel's global sustainability strategy, likely encouraging similar initiatives across its other production sites. This accomplishment clearly demonstrates the company's commitment to sustainable manufacturing processes to its customers and investors, thereby enhancing its brand value and corporate reputation. Moving forward, Henkel is expected to continue decarbonizing its entire manufacturing footprint, alongside improving the environmental performance of its adhesive products. This strategic direction positions Henkel as a leading role model for corporations integrating climate action at the core of their business strategy, demonstrating that industrial operations can be both productive and environmentally responsible.

Source: https://www.engineeringnews.co.za/article/carbon-neutrality-advanced-with-major-emissions-reduction-at-henkel-factory-2026-06-11

Collected: June 19, 2026 | Automated Research System (Gemini API)

Major Adhesives Companies Introduce TPO/IBOA-Free UV-Curable Adhesives, Revolutionizing Medical and Structural Bonding in Response to EU Regulations

Published June 19, 2026 Assembly Magazine Germany



OVERVIEW

Leading adhesive manufacturers, including Delo Industrial Adhesives, Dymax, and Hoenle, have launched new UV-curable adhesives free of TPO and IBOA, addressing stricter EU regulations. Products like Delo's Photobond MG4202 for structural applications and Dymax's HLC-M-1004 for medical devices enhance safety and performance. Additionally, Wevo-Chemie GmbH unveiled Wevosil 23130, a silicone sealant for EV battery housings to prevent gas/smoke release during thermal runaway, signifying a broad industry shift towards eco-friendly, high-performance materials.

IN DEPTH

Key Findings

In response to tightening EU chemical regulations, major adhesive manufacturers such as Delo Industrial Adhesives, Dymax, and Hoenle have collectively introduced a new generation of UV-curable adhesives free from harmful substances like TPO (Trimethylbenzoyl Diphenylphosphine Oxide) and IBOA (Isobornyl Acrylate). These innovations provide critical solutions that enhance both safety and performance in sensitive applications, particularly within medical device assembly and structural bonding. Complementing this trend, Wevo-Chemie GmbH also unveiled a specialized silicone sealant for EV battery housings, designed to prevent gas and smoke release during thermal runaway events, underscoring a broader industry movement towards environmentally conscious and high-functional materials.

Technical Details

- **Delo Industrial Adhesives:** Launched five new UV-cure adhesives, including Photobond MG4202, specifically for structural applications. These formulations are free of IBOA and TPO while maintaining high bond strength and durability, meeting stringent environmental standards for automotive and electronics assembly.
- **Dymax:** Highlighted its low-viscosity, hybrid light-curable adhesive, HLC-M-1004, for medical device assembly. This adhesive cures in both light-exposed and shadowed areas and is ISO 10993 biocompatible, providing design flexibility and manufacturing efficiency for complex medical devices like catheters.
- **Hoenle:** Developed REACH-compliant, CMR (carcinogenic, mutagenic, reprotoxic)-free UV-cure adhesives for medical assembly. These products enhance safety for both medical professionals and patients, ensuring cleaner manufacturing environments.
- **Wevo-Chemie GmbH:** Introduced Wevosil 23130, a silicone sealant for EV battery housings. This sealant is designed to prevent gas and smoke release during thermal runaway, significantly enhancing occupant safety. Its superior heat resistance and sealing properties contribute to the overall reliability of EV battery systems.

Background & Context

The European Union has progressively tightened regulations on chemical substances, placing restrictions on the use of compounds like TPO and IBOA to protect worker health and reduce environmental impact. These regulatory pressures compel adhesive manufacturers to innovate, developing alternative materials and redesigning existing products. Concurrently, sectors such as medical devices, electric vehicles (EVs), and high-performance electronics demand miniaturization, increased functionality, and enhanced reliability. Adhesive and sealant materials are critical enablers for these advancements, requiring solutions that meet both regulatory compliance and high-performance criteria. The newly launched products from these companies directly address these converging market needs and regulatory trends.

Strategic Significance & Outlook

The widespread adoption of TPO/IBOA-free UV-curable adhesives marks a pivotal step towards greater sustainability in the adhesive market. These innovations empower medical device manufacturers to develop safer and more advanced products while simultaneously reducing occupational risks in manufacturing facilities. The introduction of high-performance sealants for EV batteries is equally critical, enhancing the safety and accelerating the adoption of electric vehicles. Moving forward, the adhesives and sealants industry is expected to intensify its focus on 'green chemistry' principles, driving further material development that balances environmental compliance with functional superiority. This strategic direction will not only mitigate risks but also unlock new market opportunities across various industrial applications, fostering a more sustainable and high-performing future for advanced manufacturing.

Source: https://www.assemblymag.com/articles/100146-new-uv-cure-adhesives-do-not-contain-tpo

Henkel's Loctite EA 9497 Structural Adhesive Contributes to Sagrada Familia Central Towers Completion: 24 Tons Used for Accelerated, Durable Construction

Published June 17, 2026 Henkel Germany

OVERVIEW

Henkel announced that its advanced structural adhesive, Loctite EA 9497, played a crucial role in the modular construction of the Sagrada Familia's central towers. Over 24 tons of the adhesive were used to bond stone and steel components, enabling them to function as a single structural unit, significantly accelerating construction while ensuring long-term durability. This application demonstrates the innovative use of modern materials in historical architectural projects.

IN DEPTH

Key Findings

Henkel announced on June 17, 2026, that its advanced structural adhesive, Loctite EA 9497, was instrumental in the modular construction of the central towers of the iconic Sagrada Familia in Spain. This technology proved decisive in both significantly accelerating the construction process and guaranteeing the long-term durability of the structure.

Technical Details

Loctite EA 9497 is a high-performance, epoxy-based structural adhesive particularly adept at forming strong bonds between disparate materials. For the central towers of the Sagrada Familia, over 24 tons of this adhesive were utilized to integrate pre-fabricated stone modules with the internal steel framework, enabling them to act as a monolithic structural unit. The adhesive exhibits high shear and peel strengths and, once cured, offers exceptional environmental resistance to factors such as temperature fluctuations, humidity, and UV radiation. This allows for an even distribution of loads, with the stone and steel effectively working as one. The combination of modular construction techniques and high-performance adhesives provided substantial advantages in terms of both construction precision and timeline compared to traditional stone masonry and mortar joining.

Background & Context

The Sagrada Familia, Antoni Gaudí's unfinished masterpiece, was undergoing a monumental project to complete its central towers, aligning with the centenary of Gaudí's death. The restoration and completion of historical monuments demand a delicate balance between traditional aesthetics and modern engineering. Modular construction, a contemporary building trend, reduces on-site labor, enhances safety, and improves quality, but often presents challenges in achieving reliable connections between different materials. Henkel's Loctite EA 9497 addressed this challenge, facilitating the realization of Gaudí's vision with structural integrity fitting for the 21st century, all while improving time and cost efficiency.

Strategic Significance & Outlook

This successful application at the Sagrada Familia underscores the transformative role that high-performance adhesives can play in the architecture and construction industry, especially for large-scale and complex structures. Adhesive technologies like Loctite EA 9497 offer lighter, aesthetically superior, and more durable alternatives to conventional mechanical fastenings or welding, and are likely to see broader adoption in future construction projects. Building on this achievement, Henkel is poised to further expand the application scope of its adhesive technologies, contributing to the proliferation of sustainable and efficient construction methods. As demand for prefabricated and modular building increases globally, the role of advanced adhesives is expected to become even more critical.

Source: https://www.henkel.com/press-and-media/press-releases-and-kits/2026-06-17-henkel-technology-supports-completion-of-the-sagrada-familia-s-central-towers-2171148

Collected: June 19, 2026 | Automated Research System (Gemini API)

BASF Unveils High-Performance PIB Binder Oppanol® N PLUS for Next-Gen EV Solid-State Batteries at Battery Show Europe 2026

Published June 16, 2026 SpecialChem Germany

OVERVIEW

BASF introduced Oppanol® N PLUS, a new high-performance polyisobutene (PIB) binder designed for next-generation EV batteries, particularly solid-state batteries, at The Battery Show Europe 2026. Characterized by high elasticity and consistent quality, this binder contributes to battery lifetime and stability by holding individual components together and compensating for mechanical stress within cathodes, anodes, or electrolytes. This innovative binder addresses a key challenge in solid-state battery commercialization, promising enhanced EV range and safety.

IN DEPTH

Key Findings

BASF unveiled Oppanol® N PLUS, a high-performance polyisobutene (PIB) binder specifically developed for next-generation electric vehicle (EV) batteries, especially for the highly anticipated solid-state batteries, at The Battery Show Europe 2026 on June 16. This new material is characterized by its high elasticity and exceptional quality consistency, offering the potential to significantly extend battery lifespan and overall stability.

Technical Details

Oppanol® N PLUS, with its superior elastic properties, effectively binds individual components such as cathodes, anodes, or solid electrolytes within battery systems, particularly in solid-state batteries where structural integrity can be vulnerable. In solid-state batteries, mechanical stress caused by the expansion and contraction of electrode materials during charge-discharge cycles often leads to delamination at electrode-electrolyte interfaces and crack formation, which are primary causes of battery performance degradation and reduced lifespan. Oppanol® N PLUS flexibly absorbs and compensates for this mechanical stress, maintaining interface stability and enabling both high cycle life and high energy density. Its consistent quality also guarantees reliability and reproducibility in mass production, an indispensable factor for accelerating the commercialization of solid-state batteries.

Background & Context

To further advance the adoption of electric vehicles, it is crucial to overcome challenges associated with current mainstream lithium-ion batteries, including safety, range, charging speed, and cost. Solid-state batteries, by using non-flammable solid electrolytes, offer dramatically improved safety and the potential for extended range through higher energy density, garnering significant anticipation as next-generation batteries. However, numerous technical barriers still exist for commercialization, such as high interfacial resistance between solid electrolytes and electrodes, and the poor ability of electrodes to accommodate volume changes. BASF's Oppanol® N PLUS provides an innovative solution to one of these barriers—mechanical stability—and is expected to significantly accelerate the practical application of solid-state batteries.

Strategic Significance & Outlook

The market introduction of Oppanol® N PLUS will provide new momentum to the solid-state battery development race. The adoption of this high-performance binder will directly lead to extended driving ranges, shorter charging times, and enhanced safety for EVs equipped with solid-state batteries. Through this product, BASF aims to contribute to the evolution of EV battery technology and play a crucial role in realizing a sustainable mobility society. Moving forward, by deepening collaborations with automotive and battery cell manufacturers to establish Oppanol® N PLUS as a standard material for solid-state batteries, BASF is expected to contribute to the further expansion of the global EV market. This innovation is a highly interesting technological development for battery industry engineers, researchers, and investors alike.

Source: https://www.specialchem.com/coatings/news/ev-battery-binder-technology-at-the-battery-show-europe-by-basf

Collected: June 19, 2026 | Automated Research System (Gemini API)

Sihl Launches Dual-Function Security Label Material, Enhancing Anti-Counterfeiting with Overt and Covert Features

Published June 11, 2026 Labels & Labeling Switzerland

OVERVIEW

Sihl launched a new dual-function security label material on June 11, 2026, designed to offer enhanced security features for various packaging and labeling applications. This product integrates both overt (visible) and covert (hidden) security elements to prevent counterfeiting and protect brand integrity. The innovative label enables companies to assure product authenticity to consumers and bolster market trust, providing a critical tool against illicit trade.

IN DEPTH

Key Findings

Sihl launched a revolutionary dual-function security label material on June 11, 2026, aimed at significantly enhancing anti-counterfeiting measures and brand protection. This new product is meticulously designed to provide advanced security features across a wide range of packaging and labeling applications, integrating multiple layers of authentication.

Technical Details

The newly developed dual-function security label material incorporates two primary categories of security features. The first category comprises 'overt security elements,' which are readily identifiable by consumers with the naked eye (e.g., special printing inks, holograms, visible textures, or unique patterns). The second category includes 'covert security elements,' hidden features that require specialized equipment or expert knowledge for detection (e.g., micro-text, UV-reactive inks, embedded codes, or forensic markers). This layered approach makes it exceptionally difficult for counterfeiters to replicate the label, thereby providing multi-faceted protection for product authenticity. The label material is also engineered for seamless integration into existing labeling processes, offering high durability and printability suitable for various product packages. Its design ensures robust performance across diverse environmental conditions encountered in global supply chains.

Background & Context

Globally, the proliferation of counterfeit goods continues to be a severe problem, particularly in sectors where product integrity is paramount, such as luxury goods, pharmaceuticals, electronics, and food. Counterfeit products not only cause economic losses to consumers but also pose health risks, damage brand reputation, and result in significant revenue loss for companies. Traditional security labels have increasingly proven insufficient against sophisticated counterfeiting techniques. Sihl's new material addresses this evolving threat, responding to the market's demand for more robust anti-counterfeiting solutions. By integrating multifunctional security elements into a single material, it simplifies product tracking and verification throughout the supply chain, enhancing consumer confidence in genuine products.

Strategic Significance & Outlook

Sihl's dual-function security label material has the potential to establish new standards in anti-counterfeiting technology. Its introduction empowers businesses to more reliably protect product authenticity and bolster consumer purchasing confidence. As global product circulation increases, especially with the rise of cross-border e-commerce, the risk of counterfeiting persists. Sihl's technology will be a powerful tool to mitigate these risks and help brands safeguard their value worldwide. The company aims to strengthen its leadership in the packaging and labeling industry through this new product, contributing to the enhanced safety and reliability of sustainable supply chains. This innovation holds critical significance for product brand owners, logistics providers, and regulatory bodies seeking to combat illicit trade effectively.

Source: #

Henkel Showcases Sustainable Packaging Solutions at Interpack 2026, Featuring Low-CO_2 Hot Melts and Solvent-Free Laminating Adhesives

Published June 15, 2026 Henkel Germany

OVERVIEW

Henkel Adhesive Technologies will exhibit its portfolio of adhesives and coatings for sustainable packaging design at Interpack 2026. This includes low-CO_2 hot melts, solvent-free laminating adhesives (LOCTITE LIOFOL LA 7837 / LA 6265 suited for high thermal stress applications like pet food retort pouches), and barrier coatings. All solutions are aimed at accelerating circular and future-proof packaging. This exhibition clearly demonstrates Henkel's commitment to reducing environmental impact and enhancing functionality in the packaging industry.

IN DEPTH

Key Findings

Henkel Adhesive Technologies announced its plans to showcase an extensive portfolio of adhesives and coatings designed for sustainable packaging at Interpack 2026. These solutions are specifically aimed at reducing the environmental footprint of packaging while maintaining high levels of functionality and safety, addressing the growing global demand for eco-friendly packaging.

Technical Details

Key sustainable packaging solutions Henkel will feature at Interpack 2026 include:

- **Low-CO_2 Hot Melt Adhesives:** These hot melt adhesives are formulated to reduce carbon dioxide emissions during their manufacturing process. They contribute to improving the overall sustainability of packaging by maintaining high bond strength and production efficiency, primarily used for sealing cartons and boxes.
- **Solvent-Free Laminating Adhesives (LOCTITE LIOFOL LA 7837 / LA 6265):** By eliminating solvents, these adhesives achieve zero VOC (volatile organic compound) emissions during production, significantly reducing environmental impact and improving working conditions. Specifically, LOCTITE LIOFOL LA 7837 / LA 6265 are ideal for packaging applications subjected to high thermal stress, such as pet food retort pouches, providing excellent bond strength and durability.
- **Barrier Coatings:** Applied directly to packaging materials, these coatings prevent the permeation of oxygen, moisture, and other elements, extending product freshness and shelf life. This technology has the potential to simplify multi-layered plastic films, thereby improving their recyclability and overall sustainability profile.

These technologies are founded on the principles of a circular economy, focusing on lightweighting, enhancing recyclability, utilizing renewable resources, and reducing waste throughout the packaging lifecycle.

Background & Context

With increasing global concern over plastic waste and climate change, the packaging industry is under immense pressure to transition to more environmentally friendly solutions. Consumer awareness, stringent regulations, and the necessity for companies to meet ESG (Environmental, Social, and Governance) targets make sustainable packaging an urgent imperative. Traditional packaging materials and adhesives often used complex, multi-material structures that were difficult to recycle or involved environmentally harmful solvents in their production. Henkel's new solutions address these challenges, aiming to improve the environmental performance of packaging across its entire lifecycle. Notably, technologies that ensure both safety and freshness for food packaging while also enabling recyclability are highly valued in the market.

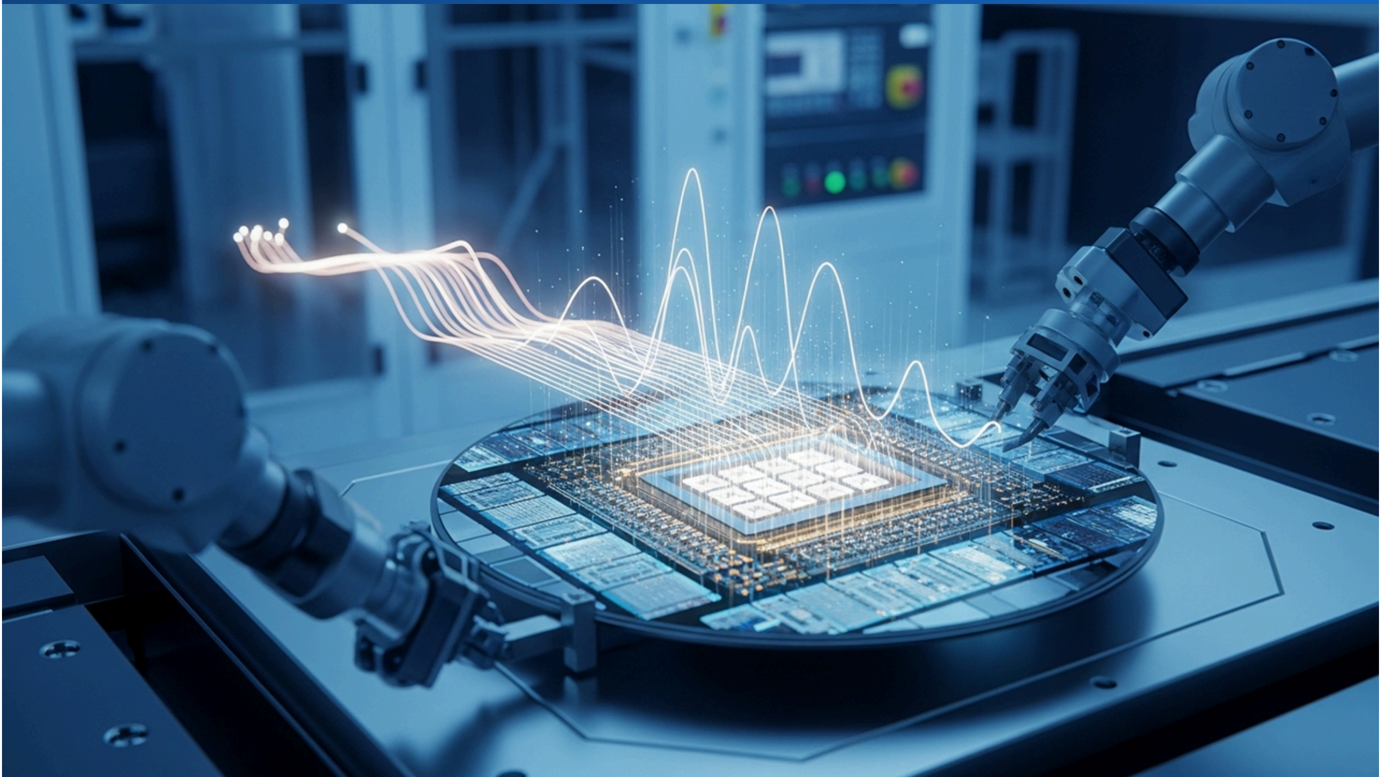
Strategic Significance & Outlook

The sustainable packaging solutions presented by Henkel at Interpack 2026 are expected to accelerate innovation in the packaging industry, fostering the adoption of more environmentally friendly and functional products. In particular, advancements in solvent-free technologies and barrier coatings could facilitate the reduction of plastic usage and promote mono-materialization, drastically improving packaging recyclability. As a leader in adhesive technologies, Henkel aims to be a key partner for its customers in achieving their sustainability goals and supporting the transition to a circular economy. This initiative is likely to be viewed as a highly attractive corporate strategy by environmentally conscious consumers and ESG-focused investors, reinforcing Henkel's commitment to a sustainable future.

Source: https://next.henkel-adhesives.com/at/en/events/interpack-2026-henkel-solutions.html

Semiconductor Engineering Report Highlights AI-Driven Optical-Logic Integration and Hybrid Bonding for Increased Interconnect Density

Published June 18, 2026 Semiconductor Engineering USA



OVERVIEW

A June 2026 Semiconductor Engineering report emphasizes that AI systems are driving a closer integration of optics and logic, necessitating co-evolution in fabrication, packaging, thermal management, materials, and testing for scalable manufacturing. Hybrid bonding technology is identified as enabling unprecedented connection density, with Intel Foundry's Lori Scott detailing advancements in EMIB-T, co-packaged optics, and glass packaging at ECTC 2026. These developments are pivotal for next-gen high-performance computing.

IN DEPTH

Key Findings

A June 2026 report from Semiconductor Engineering highlights that AI systems are catalyzing a profound integration of optical components with logic chips. This shift mandates a holistic co-evolution across fabrication processes, advanced packaging, thermal management, materials science, and testing methodologies to achieve scalable manufacturing. Central to this integration is hybrid bonding technology, which is lauded for enabling unprecedented connection density. Furthermore, Intel Foundry's Lori Scott elaborated on the latest advancements in EMIB-T, co-packaged optics, and glass packaging at ECTC 2026, providing a clear trajectory for industry innovation.

Technical & Clinical Details

- **AI-Driven Optical-Logic Integration:** AI applications demand immense data processing capabilities, often bottlenecked by inter-chip data transfer speeds. Directly integrating optical components with logic chips allows for high-speed, low-power data communication that transcends the limitations of electrical signaling. This integration requires coordinated technological development across the entire semiconductor ecosystem, from design to manufacturing.
- **Hybrid Bonding:** This technique creates direct copper-to-copper bonds at the wafer or die level, achieving extremely high interconnect density and fine pitches impossible with traditional wire bonding or flip-chip methods. It is key to 3D stacking and chiplet technologies, contributing to increased bandwidth and reduced power consumption.
- **EMIB-T (Embedded Multi-die Interconnect Bridge-Tile):** Developed by Intel, this technology functions as a bridge to efficiently connect disparate chiplets. It enables high-density connectivity while offering cost advantages and process simplification compared to traditional interposers.
- **Co-packaged Optics:** This technology integrates optical transceivers directly within the semiconductor package. It dramatically boosts switching bandwidth and improves power efficiency in data centers by shortening signal pathways and minimizing electrical losses.

- **Glass Packaging:** Utilizing glass substrates, which offer high flatness, low dielectric loss, and thermal stability, for packaging. This provides superior signal integrity and thermal dissipation characteristics, especially for high-frequency applications and large interposers, enabling higher-performance modules.

Background & Context

The semiconductor industry is undergoing fundamental transformations driven by mega-trends such as AI, high-performance computing, 5G communication, and autonomous driving. As the industry grapples with the slowing pace of traditional process node miniaturization (the "end of Moore's Law"), heterogeneous integration and advanced packaging have become primary strategies for delivering next-generation performance and cost efficiency. The integration of optics and logic, in particular, is a top industry priority, directly addressing power consumption issues in data centers and bottlenecks in AI workloads.

Strategic Significance & Outlook

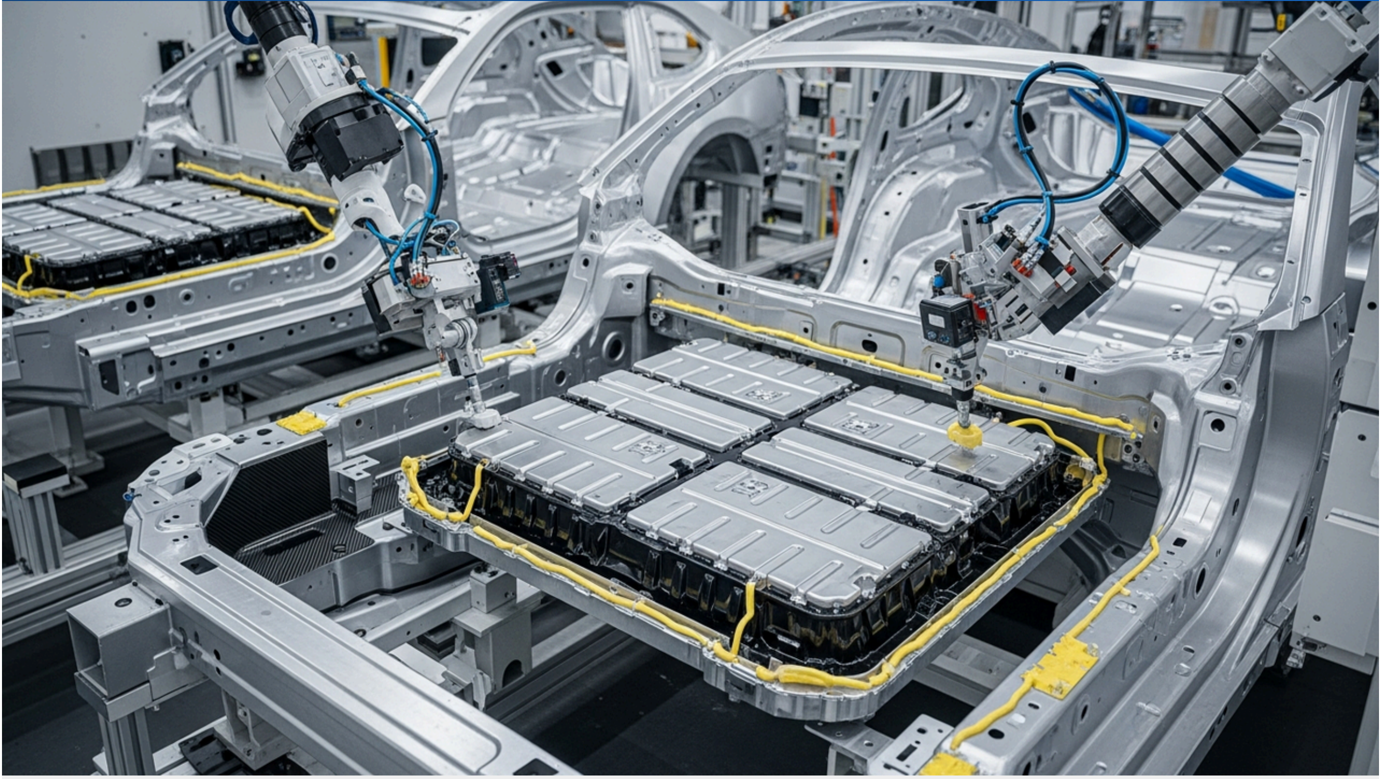
This report clearly indicates that AI is a primary driving force across all facets of the semiconductor industry, especially in packaging and materials development. Technologies like hybrid bonding, EMIB-T, co-packaged optics, and glass packaging are poised to shape the innovation roadmap for semiconductor advancements in the coming years. These technologies will mature and scale to mass production, enabling faster, more power-efficient, and smaller electronic devices. Industry-wide collaboration and investment will be crucial for the successful realization of these technological breakthroughs.

Source: https://semiengineering.com/newsletter/manufacturing-packaging-materials-june-2026/

Collected: June 19, 2026 | Automated Research System (Gemini API)

Adhesives Drive Automotive Lightweighting: Critical for Battery Packs and Multi-Material BIW

Published June 16, 2026 Industrial publication/analysis (specific name not in snippet)
Unknown



OVERVIEW

Adhesives are becoming increasingly critical for automotive lightweighting, particularly in EV battery packs and multi-material body-in-white (BIW) assemblies. These advanced bonding solutions enable lighter designs by reducing the need for mechanical fasteners and distributing loads more uniformly. This directly enhances crash performance, improves noise, vibration, and harshness (NVH) characteristics, and contributes to overall vehicle efficiency.

IN DEPTH

Key Findings

The automotive industry's relentless pursuit of lightweighting is accelerating the adoption of adhesive technologies, with a particular surge in importance for electric vehicle (EV) battery packs and multi-material body-in-white (BIW) assemblies. Adhesives fundamentally enable lighter designs by minimizing the need for mechanical fasteners and robustly joining dissimilar materials. This leads to significant vehicle weight reduction, improving fuel efficiency and extending EV range.

Technical / Clinical Details

- **Battery Pack Applications**: In EV battery pack assembly, adhesives secure cells and modules, enhance thermal management, and contribute to structural integrity. Beyond weight reduction, they provide vibration damping, extending battery life and improving safety. Adhesives also serve as crucial sealants to contain gas and smoke during thermal runaway events, safeguarding occupants.
- **Multi-Material BIW Assemblies**: For BIW structures integrating diverse materials like steel, aluminum, and composites, adhesives offer superior joining solutions compared to welding or rivets. They mitigate stress concentrations, reduce part count, and increase overall body stiffness. This flexibility allows for innovative structural designs that were previously unfeasible.
- **Performance Enhancements**: Adhesive bonding distributes loads more uniformly across broader surfaces, significantly improving crash energy absorption and overall vehicle safety. The continuous bond line also seals gaps between panels, enhancing noise, vibration, and harshness (NVH) characteristics, resulting in a quieter and more comfortable driving experience.

Background & Context

Increasing global fuel economy standards and the rapid expansion of the EV market are compelling automakers to prioritize vehicle lightweighting. Traditional joining methods often face limitations in bonding dissimilar materials and accommodating complex designs. Adhesives offer a versatile and efficient solution, also amenable to automated production lines. This trend underpins greater design freedom and facilitates the integration of novel materials in automotive manufacturing.

Strategic Significance & Outlook

The market for automotive adhesives is projected for substantial growth, driven by continued EV proliferation and advancements in autonomous driving. Key development areas will include battery thermal management adhesives, structural adhesives offering higher strength-to-weight ratios, and recyclable adhesive systems. Adhesive manufacturers are expected to intensify R&D efforts to deliver products with superior strength, durability, thermal resistance, and environmental performance, thereby shaping safer, more efficient, and sustainable vehicles of the future.

Source: https://vertexaisearch.cloud.google.com/grounding-api-redirect/AUZIYQHgUzdDh-vd0LI8PEM1I4o3ItDXht4Q9BBT42p9I08Z1kWxq8KoPp6oucVlfx7YqhxYxt8j-KEJenIdX9y07zd_DjJ0IUiY6egayV1IwvSKg7pvuTyn0QXjmCmJ-m6EPnw-9e7R4pD0biSQiufckVjQ6nmJP95WmUwGvsrB8e3qQpTwFuXD5hF27rgOAv4JcBHh_AFKVzYgYMFpbXyOhPXN7Zc
tGbf_JzpyHDAZBH6M0dylRrlDXHGLGZcqQpXQWAahm4gbsYgg=

Collected: June 19, 2026 | Automated Research System (Gemini API)

Bostik's Kizen® Miles 9.0 Wins INDEX™ 26 Award for Breakthrough Recyclable Hygiene Adhesive with 75% Renewable Content

Published June 17, 2026 Adhesives & Sealants Industry Magazine France

OVERVIEW

Bostik's Kizen® Miles 9.0, a groundbreaking recyclable hygiene adhesive, has been honored with an INDEX™ 26 Award for its innovative design. This adhesive facilitates controlled component separation at end-of-life for disposable absorbent hygiene products, significantly improving their recyclability. Notably, it incorporates up to 75% renewable materials, setting a new standard for sustainability in the industry.

IN DEPTH

Key Findings

Bostik's Kizen® Miles 9.0, a pioneering recyclable hygiene adhesive, has received an INDEX™ 26 Award, recognized for its ability to dramatically enhance the recyclability of disposable absorbent hygiene products. This innovative solution enables controlled separation of components at the end of the product lifecycle and integrates up to 75% renewable materials, demonstrating a strong commitment to environmental sustainability.

Technical / Clinical Details

- **Improved Recyclability**: Kizen® Miles 9.0 is engineered to allow the controlled separation of different layers within disposable absorbent hygiene products (e.g., diapers, feminine care products) under specific conditions. This facilitates the recovery of valuable materials, such as superabsorbent polymers and fibers, significantly boosting recycling efficiency.
- **Integration of Renewable Materials**: A key feature is the reduction of petroleum-based raw materials, with up to 75% of the adhesive formulated from renewable (bio-based) sources. This establishes a new benchmark for reducing environmental impact within the adhesive industry and contributes to resource sustainability.
- **Balancing Performance and Sustainability**: While enhancing environmental credentials, Kizen® Miles 9.0 maintains and improves essential performance characteristics for hygiene adhesives, including strong bond strength, flexibility, and moisture resistance. This ensures that consumer product quality and comfort are not compromised in the pursuit of environmental goals.

Background & Context

Growing global awareness of environmental issues associated with disposable products has driven an urgent need for recycling technology innovation. The hygiene products industry is a prime example, facing demands for waste reduction and a transition towards a circular economy. Bostik's Kizen® Miles 9.0 was developed in response to these market needs, positioning itself as a potential new industry standard, particularly as stricter environmental regulations emerge in Europe and beyond.

Strategic Significance & Outlook

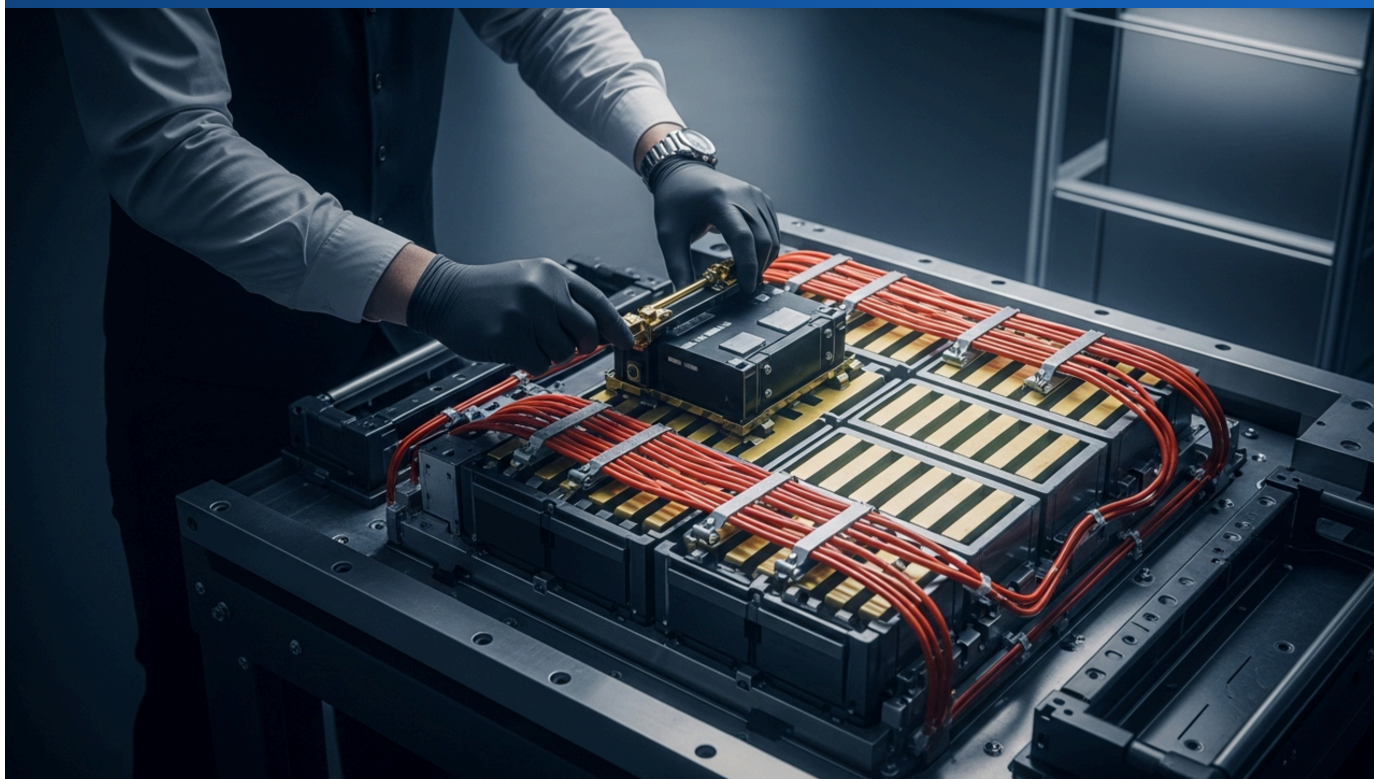
The INDEX™ 26 Award for Kizen® Miles 9.0 provides strong impetus for adhesive manufacturers to further pursue environmental innovation. It is anticipated that similar recyclable and bio-based adhesive solutions will expand into various other disposable product sectors. Bostik plans to leverage this technology to offer a wider range of sustainable solutions, contributing to the realization of a circular economy. This development is expected to accelerate sustainability transformations across the entire supply chain, from material suppliers to final product manufacturers.

Source: https://www.adhesivesmag.com/articles/102469-bostik-honored-for-breakthrough-recyclable-hygiene-adhesive

Collected: June 19, 2026 | Automated Research System (Gemini API)

U.S. Thermal Interface Materials Market to See Substantial Growth by 2033, Driven by EV Battery Pack Gap Filler Adoption

Published June 18, 2026 Marks Park Solutions USA



OVERVIEW

This article provides an overview of a market research report published by Marks Park Solutions. The U.S. thermal interface materials (TIM) market is projected for significant growth by 2033, primarily fueled by the increasing adoption of thermal gap fillers in electric vehicle (EV) battery packs. This expansion is driven by the imperative to enhance battery safety, thermal uniformity, and charging performance. Leading manufacturers are actively expanding gap filler production capacity to meet the surging demand from the expanding EV production, with 1.5 to 4 kg of gap filler required per 100 kWh Li-ion battery pack.

IN DEPTH

Key Findings

This article provides an overview of a market research report published by Marks Park Solutions. The U.S. thermal interface materials (TIM) market is projected for substantial growth by 2033, primarily driven by the increasing adoption of thermal gap fillers in electric vehicle (EV) battery packs. This trend is accelerated by the automotive industry's continuous efforts to improve EV battery safety, thermal uniformity, and charging performance.

Report Overview

This report focuses on the U.S. thermal interface materials market, with a particular emphasis on gap fillers as thermal management solutions for EV battery packs. It covers market size, share, growth forecasts, key drivers, and regional analysis. The study period extends from the present to 2033.

Key Findings

- **Surging EV Battery Pack Demand**: The U.S. TIM market is robustly propelled by the escalating demand for thermal gap fillers within EV battery packs. These materials are crucial for preventing battery overheating, ensuring safety, and extending battery life by maintaining optimal operating temperatures.
- **Gap Filler Consumption**: The report indicates that an average of 1.5 kg to 4 kg of thermal gap filler is required per 100 kWh Li-ion battery pack. This demand is expected to increase exponentially with the expanding production of EVs.
- **Capacity Expansion by Key Players**: Major TIM manufacturers such as Henkel, Parker Hannifin, and Fujipoly are actively increasing their production capacities for thermal gap fillers to meet the rising demand from the EV industry. This reflects a strategic move to capitalize on significant market growth opportunities.

About the Publisher

Marks Park Solutions is a global market research firm that provides comprehensive reports across various industrial sectors. The company delivers in-depth market analysis, competitive landscape assessments, and future forecasts to help clients make informed strategic decisions.

Source: https://marksparksolutions.com/reports/us-thermal-interface-materials-market

Collected: June 19, 2026 | Automated Research System (Gemini API)

Resonac Secures Key Patent on Liquid Encapsulant for 2.5D AI Chips, Bolstering Reliability and Market Position

Published June 17, 2026 IBTimes JP Japan

OVERVIEW

Resonac announced that the Japan Patent Office has upheld the validity of its patent (Patent No. 7687499) for a liquid encapsulant used in 2.5D semiconductor packages for generative AI. This ruling validates the importance of Resonac's technology in addressing stress and cracking issues caused by thermal expansion differences in high-density AI chip packages. The decision significantly strengthens Resonac's market competitiveness and its contribution to enhancing the reliability and performance of AI semiconductors.

IN DEPTH

Key Findings

Resonac announced that the Japan Patent Office has upheld the validity of its patent (Patent No. 7687499) for a liquid encapsulant critical for 2.5D semiconductor packages designed for generative AI. This decision ensures that Resonac's proprietary technology, which effectively mitigates reliability issues arising from thermal expansion mismatches in high-density semiconductor packages, remains protected in the market.

Technical / Clinical Details

- **2.5D Semiconductor Packaging**: 2.5D packaging is an advanced integration technology where multiple semiconductor dies (e.g., logic and HBM) are placed side-by-side on a silicon interposer, enabling high-density integration. This architecture improves data transfer speeds and enhances power efficiency for high-performance applications.
- **Role of Liquid Encapsulants**: In 2.5D packages, the differential thermal expansion rates between various materials can generate significant stress during temperature cycles, leading to critical reliability issues such as chip cracking or delamination. Resonac's liquid encapsulant is specifically designed to alleviate these thermal stresses, substantially enhancing the overall durability and reliability of the package.
- **Patent No. 7687499**: This specific patent focuses on a liquid encapsulant with a unique chemical composition and structure, characterized by its superior ability to fill high-aspect-ratio gaps and its low-stress properties after curing. These features are crucial for guaranteeing the long-term reliability of delicate 2.5D packages.

Background & Context

The explosive growth of generative AI has led to unprecedented demand for high-performance AI chips. These chips require advanced packaging technologies, particularly 2.5D and 3D stacking, to process vast amounts of data at high speeds. In such high-density packaging, material reliability is paramount, and the performance of foundational materials like liquid encapsulants dictates the stability and lifespan of the final product. Resonac, leveraging its extensive expertise in material science, has established a leadership position in this critical sector.

Strategic Significance & Outlook

The patent validity ruling by the Japan Patent Office is a crucial step for Resonac to maintain its technological edge in the AI semiconductor market. It allows the company to preserve a clear differentiation against competitors and further expand its influence within the supply chain for generative AI and high-performance computing. As the development race for more powerful and reliable semiconductor packaging materials intensifies, Resonac's technology is expected to remain a core driver of industry evolution.

Source: https://jp.ibtimes.com/resonac-wins-japan-patent-ruling-25d-ai-chip-material-101701

Collected: June 19, 2026 | Automated Research System (Gemini API)

3M VHB 4920 Acrylic Foam Tape Delivers High-Strength Bonding for AI Servers and EV Transport Systems

Published June 11, 2026   Yousan New Materials   USA

OVERVIEW

3M has introduced its VHB 4920 Acrylic Foam Tape, offering a high-strength, invisible bonding solution as an alternative to traditional mechanical fasteners. This versatile tape provides excellent environmental resistance, vibration damping, and long-term durability across diverse applications, including AI servers, optical communication equipment, transportation systems, electronic displays, industrial machinery, and signage. Its superior bonding strength and adaptability to various materials enhance design flexibility and manufacturing efficiency.

IN DEPTH

Key Findings

3M has launched the '3M VHB 4920' double-sided acrylic foam tape, providing a high-strength, invisible bonding solution that serves as a compelling alternative to traditional mechanical fasteners. This innovative product delivers exceptional environmental resistance, vibration absorption, and long-term durability across a wide range of applications, including AI servers, optical communication equipment, transportation systems, electronic displays, industrial machinery, and signage.

Technical / Clinical Details

- **High-Strength Adhesion**: The 3M VHB 4920 features a unique viscoelastic acrylic foam core that creates strong, permanent bonds to diverse substrates such as metals, glass, plastics, and composites. This minimizes stress concentrations while providing high shear and peel strengths.
- **Vibration Damping and Fatigue Resistance**: The foam structure effectively absorbs vibrations and shocks, enhancing resistance to fatigue stresses. This is crucial for improving the reliability and lifespan of equipment in dynamic environments, such as transport vehicles and industrial machinery.
- **Environmental Durability**: The tape exhibits excellent resistance to severe temperature fluctuations, UV radiation, moisture, and chemicals. Its ability to maintain adhesive performance over long periods in harsh indoor and outdoor conditions makes it suitable for a broad spectrum of applications.
- **Diverse Applications**: It proves particularly valuable in demanding sectors such as precise component fastening in AI servers and optical communication devices, structural bonding in transportation equipment including EVs, electronic display assembly, securing industrial equipment requiring high durability, and mounting outdoor signage.

Background & Context

Modern manufacturing demands lightweight products, enhanced design freedom, and simplified production processes. Traditional mechanical fasteners like welding, rivets, and screws often present challenges such as increased weight, stress concentration points, aesthetic impact, and difficulties in joining dissimilar materials. 3M VHB tapes have evolved over decades as a clean, efficient, and high-performance alternative to these challenges. In emerging technology sectors like AI and EVs, where thermal management and vibration control are paramount, the demand for high-performance adhesive tapes is particularly acute.

Strategic Significance & Outlook

High-performance acrylic foam tapes like 3M VHB 4920 are expected to expand their application scope across diverse industries including electronics, automotive, aerospace, and construction. As products continue to miniaturize, increase in efficiency, and demand greater durability, invisible yet robust bonding technologies will become indispensable. 3M will leverage its material science expertise to pursue further performance enhancements, environmental impact reduction, and the development of application-specific custom products, thereby strengthening its leadership in the high-functional adhesive solutions market.

Source: https://www.ysdiecut.com/3m-vhb-4920-acrylic-foam-tape-high-strength-bonding-solution-for-electronics-transportation-industrial-applications/

Resonac CEO Navigates Soaring AI Chip Demand and China Supply Chain Risks, Bolstered by Key Patent Ruling

Published June 18, 2026 Crypto Briefing Japan

OVERVIEW

The CEO of Resonac Holdings, a key supplier of non-conductive film for HBM chips and liquid encapsulants for 2.5D semiconductor packages, emphasized strategies for managing surging AI chip demand while mitigating China supply chain risks. A recent ruling by the Japan Patent Office upholding Resonac's patent on liquid encapsulants further strengthens its technological market position. This enhances the company's competitiveness in the global semiconductor ecosystem and its contribution to the stable supply of foundational materials for the AI revolution.

IN DEPTH

Key Findings

The CEO of Resonac Holdings, a critical supplier of non-conductive film (NCF) for High Bandwidth Memory (HBM) chips and liquid encapsulants for 2.5D semiconductor packages, outlined strategies for addressing the explosive demand for AI chips while skillfully navigating geopolitical risks associated with the China supply chain. A recent decision by the Japan Patent Office to uphold the validity of Resonac's patent on liquid encapsulants further solidifies the company's technological leadership.

Technical / Clinical Details

- **Advanced Materials for AI Chips**: Resonac provides two key materials essential for HBM chips and 2.5D packaging. HBM offers significantly higher data bandwidth compared to conventional DRAM, crucial for maximizing AI processor performance. NCF provides electrical insulation and mechanical protection for HBM chip stacking, while liquid encapsulants mitigate thermal stresses between different dies within 2.5D packages, enhancing reliability.
- **Significance of Patent Technology**: The Japan Patent Office's decision to maintain Resonac's patent on liquid encapsulants means the company's unique formulation and manufacturing processes are protected in the market. This patented technology plays a decisive role in preventing stress concentrations and crack formation caused by differential thermal expansion in complex 2.5D semiconductor packages, ensuring long-term product reliability.
- **China Supply Chain Risk Management**: The increasing dependence on China in the semiconductor industry raises concerns about supply chain stability. Resonac is mitigating these risks through diversification of production bases and establishing alternative material procurement routes, thereby building a resilient supply system for the global market.

Background & Context

The rapid evolution of generative AI has pushed demand for high-performance semiconductors, particularly GPUs equipped with HBM, to unprecedented levels. However, the semiconductor manufacturing supply chain is constantly exposed to risks such as geopolitical tensions and supply vulnerabilities. Key material suppliers like Resonac are responsible for managing these risks and ensuring stable supply while continuing technological innovation. Japanese material manufacturers, with their long-standing high-precision technical capabilities and quality control, play a vital role in supporting the global semiconductor industry.

Strategic Significance & Outlook

The strategy articulated by Resonac's CEO can serve as a model for semiconductor material suppliers in the AI era. Maintaining technological superiority and strengthening supply chain resilience are key to future corporate growth. Patent protection provides a foundation for the company to continuously invest in R&D and deliver further innovative material solutions required by next-generation AI semiconductors. Through these efforts, Resonac is expected to expand its influence at the heart of the AI revolution.

Source: https://cryptobriefing.com/resonac-ceo-ai-demand-china-risks/

H.B. Fuller Unveils 2030 Sustainability Targets, Committing 60% of Innovation to Sustainable Solutions and Opening New Aerospace Manufacturing Center of Excellence

Published June 15, 2026 Business Wire USA

OVERVIEW

H.B. Fuller released its 2025 Sustainability Report, outlining new sustainability targets for 2030 and committing nearly 60% of new product development to sustainable solutions. The company is integrating environmental goals into its business strategy, product innovation, and global operations, and has opened a new Aerospace Manufacturing Center of Excellence to accelerate growth in the aerospace and defense markets. This initiative highlights H.B. Fuller's dedication to enhancing customer sustainability profiles and fostering innovation.

IN DEPTH

Key Findings

H.B. Fuller released its 2025 Sustainability Report, setting ambitious sustainability targets for 2030 and announcing that approximately 60% of its new product development will be dedicated to sustainable solutions. The company is deeply integrating environmental goals into its core business strategy, product innovation, and global operational practices. As part of this comprehensive initiative, a new Aerospace Manufacturing Center of Excellence has been established to accelerate growth in the critical aerospace and defense markets.

Technical / Clinical Details

- **2030 Sustainability Targets**: H.B. Fuller has set specific environmental performance goals, including reductions in greenhouse gas emissions, water usage, and waste generation, alongside increased adoption of renewable energy. These targets aim to minimize the environmental footprint across the entire product lifecycle and are aligned with Science Based Targets (SBT).
- **Sustainable Product Innovation**: Nearly 60% of new product development focuses on adhesives and sealants that improve the sustainability profile of customer products. This includes enhancing renewable content, recyclability, durability, and reducing VOCs. Examples include bio-based adhesives and solutions that contribute to product longevity.
- **Aerospace Manufacturing Center of Excellence**: The newly inaugurated center will accelerate R&D, testing, and manufacturing of high-performance adhesive solutions specifically tailored for the aerospace and defense industries. This sector demands high reliability and lightweighting under extreme environmental conditions, making innovative adhesives that balance sustainability and performance indispensable.

Background & Context

Globally, corporations face increasing pressure from investors, customers, and regulators regarding Environmental, Social, and Governance (ESG) aspects. The adhesive industry is no exception, where offering sustainable materials, manufacturing processes, and products becomes a competitive advantage. Global leaders like H.B. Fuller aim to strengthen their market position and ensure long-term growth by meeting these demands. The aerospace industry, in particular, heavily relies on adhesive technologies to drive lightweighting and emission reductions, leading to growing demand for sustainable solutions.

Strategic Significance & Outlook

H.B. Fuller's comprehensive sustainability strategy and significant investment in product innovation are poised to shape new trends in the adhesive industry. The supply of high-performance and environmentally friendly adhesives will be crucial for achieving sustainability goals across a wide range of industries, including automotive, electronics, construction, and packaging. The new aerospace center will expand the company's expertise and market share in a high-value sector, positioning it as a central player in the design and manufacturing of future aircraft and spacecraft. This will solidify H.B. Fuller's reputation as a company that balances environmental responsibility with economic success.

Source: https://www.businesswire.com/news/home/20260615010269/en/H.B.-Fuller-Sets-2030-Sustainability-Targets-With-Nearly-60-of-Innovation-Focused-on-Sustainable-Solutions?feedref=JjAwJuNHiystnCoBq_hl-b8mHqIca79f9L_1D8FBjKy3YTodZHb7dXSPOSeFM4p9pjDYS2ugett3oMAQIYJVXY_0dKdFRTehrF3avD2KCHBRGBr

Collected: June 19, 2026 | Automated Research System (Gemini API)

Advanced Medical Solutions Extends Deadline for H.B. Fuller Takeover Offer to July 2, 2026, Signaling Ongoing Negotiations

Published June 18, 2026 LSE.co.uk UK

OVERVIEW

Advanced Medical Solutions Group PLC announced an extension to the deadline for H.B. Fuller Co.'s takeover proposal, setting a new 'Put-up-or-shut-up' date for July 2, 2026. This indicates ongoing discussions between the two adhesive manufacturers regarding a potential acquisition. The extension represents a typical step in M&A negotiations, drawing market attention to the possible strategic alliance between the companies.

IN DEPTH

Key Findings

Advanced Medical Solutions Group PLC (AMS) announced an extension of the formal negotiation period for the acquisition proposal from H.B. Fuller Co. The new 'Put-up-or-shut-up' deadline has been set for July 2, 2026, indicating that strategic discussions between the two adhesive manufacturers are continuing, and the market is closely monitoring future developments.

Technical / Clinical Details

- **Acquisition Proposal Context**: H.B. Fuller is a global leader in adhesives, sealants, and other specialty chemicals, with a strong interest in the medical sector. Advanced Medical Solutions, on the other hand, specializes in wound care and tissue adhesives. If this acquisition proceeds, H.B. Fuller could strengthen its medical portfolio, while AMS could leverage a broader sales network and R&D resources.
- **'Put-up-or-shut-up' Deadline**: This is a provision under the UK Takeover Code, requiring a potential acquirer to either make a firm offer by a specified date or withdraw its proposal. This extension suggests that both companies require additional time for detailed due diligence and negotiation of terms.
- **Market Impact**: The medical adhesives market is experiencing steady growth driven by an aging global population and advancements in medical technology. Consolidation between major players in this sector could significantly impact the industry through product line diversification, accelerated technological innovation, and market share realignment.

Background & Context

The broader adhesives industry is seeing active consolidation and restructuring, with accelerating investments in specialized sectors like medical and electronics, which are projected for high growth. H.B. Fuller actively uses M&A as part of its growth strategy, aiming to establish leadership in specific market segments. Niche specialist companies like Advanced Medical Solutions are often attractive acquisition targets for larger corporations due to their specialized technologies and market access.

Strategic Significance & Outlook

The new deadline of July 2, 2026, marks a critical juncture for H.B. Fuller to decide whether to make a binding offer for Advanced Medical Solutions. If the acquisition materializes, the integration of both companies' technologies and markets in medical adhesives is expected to drive new product development and market penetration. Conversely, if negotiations fail, AMS may pursue an independent growth strategy or seek other potential acquirers. In any scenario, this development will influence the competitive landscape of the medical adhesives and specialty chemicals industry.

Source: https://www.lse.co.uk/news/in-brief-advanced-medical-solutions-extends-hb-fuller-offer-deadline-2tiopf7xr0mgji6.html

Collected: June 19, 2026 | Automated Research System (Gemini API)

3M Accelerates Product Innovation with New World-Class Scanning Transmission Electron Microscope for Atomic-Scale Material Analysis

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OVERVIEW

3M has invested in a new world-class Scanning Transmission Electron Microscope (STEM) capable of studying materials at an atomic level. This advanced analytical capability allows for direct observation of the relationship between the structure and performance of a wide range of 3M products, including adhesives and advanced materials, significantly accelerating product development cycles. This investment is expected to facilitate faster creation of new materials and improve manufacturing processes for existing products, building a foundation for further technological innovation.

IN DEPTH

Key Findings

3M has significantly enhanced its research and development capabilities by acquiring a new, world-class Scanning Transmission Electron Microscope (STEM), enabling atomic-level material analysis. This high-performance microscope allows researchers to directly observe the intricate relationship between the microstructure and macroscopic performance of diverse 3M products, including adhesives and advanced materials, thereby dramatically shortening product development cycle times.

Technical / Clinical Details

- **Atomic-Scale Material Analysis**: The new STEM possesses the capability to observe atomic arrangements, defects, and heterogeneous interfaces at the nanometer scale with unprecedented detail. This allows for the elucidation of fundamental mechanisms, such as how the molecular structure of an adhesive impacts its bonding strength and durability, or how interfacial interactions in composite materials affect overall mechanical properties.
- **Accelerated Product Development**: By understanding material behavior at the atomic level, researchers can reduce trial-and-error processes and implement more precise material design and optimization. This will accelerate breakthroughs in the development of new generation adhesive formulations, improve characteristics of thin-film materials, and facilitate the creation of functional materials with nanometer-scale structures.
- **Enhanced Manufacturing Processes**: Scientific insights gained from atomic-level analysis directly translate into the ability to fine-tune existing manufacturing processes, leading to improvements in quality and efficiency. Examples include optimizing curing processes, identifying defect formation mechanisms, or enhancing material uniformity.

Background & Context

In the field of materials science, atomic-level structural control is increasingly critical for determining product performance. Particularly in many areas where 3M operates, such as high-performance adhesives, optical materials, battery materials, and electronic components, precise nanoscale material design is indispensable. Investment in state-of-the-art microscopy technology is a crucial strategy for companies to maintain a competitive edge and meet the demands of next-generation technologies.Strategic Significance & Outlook

The acquisition of this world-class STEM signifies 3M's commitment to further strengthening its leadership in creating innovative material solutions. Detailed atomic-level understanding will enable breakthroughs in adhesive technologies, essential for developing lighter, more durable, and higher-performance products. For instance, it will significantly enhance 3M's ability to address future technological challenges in EV battery thermal management, aerospace lightweighting, and improving medical device biocompatibility. This investment ensures long-term competitiveness and continued value delivery to the market.

Source: https://news.3m.com/3M-brings-atomic-scale-innovation-into-focus-with-new-microscope

Collected: June 19, 2026 | Automated Research System (Gemini API)

Ajinomoto's ABF Price Stability Strategy Amid Surging AI Demand Prompts Investor Re-evaluation of Portfolio Focus

Published June 14, 2026 Simply Wall St News Japan

OVERVIEW

Despite record financial results and robust demand for AI-related Ajinomoto Build-up Film (ABF), Ajinomoto Corporation plans to maintain ABF prices and expand production capacity through 2032. This strategy aims to leverage its dominant market position in semiconductor materials while sustaining long-term customer relationships, a contrast to investor pressure for price increases. This approach could influence investor perceptions of Ajinomoto's corporate value and future growth trajectory.

IN DEPTH

Key Findings

Ajinomoto Corporation is maintaining its pricing strategy for Ajinomoto Build-up Film (ABF), a critical material for AI-related semiconductor packaging, despite experiencing record financial results and surging demand. Concurrently, the company is advancing a long-term production capacity expansion plan through 2032. This strategy diverges from immediate profit maximization, aiming instead to foster strong customer relationships and contribute to long-term market growth, an approach contrasting with some investor expectations for price increases.

Technical / Clinical Details

- **ABF's Market Dominance**: Ajinomoto holds an overwhelming global market share in ABF, an essential insulating material for advanced semiconductor packaging. ABF is vital for manufacturing multi-layer substrates for high-performance chips such as CPUs, GPUs, and AI accelerators, valued for its high dielectric properties, thin-film capability, and excellent thermal stability.
- **Rationale for Price Stability**: The rapid surge in AI chip demand could create supply shortages for critical materials like ABF, typically leading to price increases. However, Ajinomoto has chosen a strategy that supports long-term partnerships and overall ecosystem growth by ensuring customers receive stable material supply at predictable costs. This decision prioritizes long-term corporate value over short-term revenue maximization.
- **Commitment to Capacity Expansion**: The planned production capacity expansion extending to 2032 signals Ajinomoto's confidence in the future growth of the AI and high-performance computing markets. This investment supports technological innovation and provides a stable environment for semiconductor manufacturers to confidently pursue next-generation chip development.

Background & Context

The AI revolution is driving unprecedented demand in the semiconductor industry, elevating the importance of high-performance processors and the advanced packaging technologies that support them. ABF is one of the foundational materials that dictates the performance of such cutting-edge packages, and its stable supply is critically important for the global semiconductor supply chain. Ajinomoto's strategy reflects a broader perspective: contributing to the stability and growth of the entire semiconductor ecosystem, rather than merely acting as a material supplier.

Strategic Significance & Outlook

Ajinomoto's strategy of stable pricing combined with significant capacity expansion demonstrates its long-term strategic vision. This approach encourages investors to focus not just on short-term earnings fluctuations, but also on sustainable growth and enduring market leadership. It is expected to bring stability to the semiconductor industry's supply chain and serve as a crucial enabler for the innovation and commercialization of next-generation AI technologies. Through this strategy, Ajinomoto could solidify its position as a 'hidden giant' in the materials sector.

Source: https://simplywall.st/stocks/jp/food-beverage-tobacco/tse-2802/ajinomoto-shares/news/does-holding-abf-prices-amid-ai-demand-recast-ajinomotos-por

Ajinomoto's Critical Chip Film, ABF, Faces Supply Test as Escalating AI Demand Mounts Pressure for Price Hikes

Published June 17, 2026 digitimes Taiwan

OVERVIEW

Global AI chip demand is putting new pressure on the supply of Ajinomoto Build-up Film (ABF), a key material for advanced semiconductor packaging. Ajinomoto faces increasing pressure to raise ABF prices, making its pricing strategy a focal point for the industry. This situation indicates Ajinomoto is at a critical juncture in balancing supply capacity with the surging demand.

IN DEPTH

Key Findings

As global demand for AI chips surges, Ajinomoto Build-up Film (ABF), an indispensable material for advanced semiconductor packaging, is facing a significant supply challenge. This situation is intensifying pressure on Ajinomoto, the primary supplier of ABF, regarding potential price increases, drawing considerable attention from the entire semiconductor industry to the company's future pricing strategy.

Technical / Clinical Details

- **ABF's Criticality and Demand**: ABF is an insulating film utilized in multi-layer IC package substrates for high-performance CPUs, GPUs, and AI accelerators. Its superior dielectric properties, thermal stability, and thin-film capabilities play a vital role in enhancing AI chip performance and miniaturization. The evolution of AI is accelerating the adoption of chiplet packages with High Bandwidth Memory (HBM) and 2.5D/3D stacking technologies, driving unprecedented demand for ABF.
- **Background of Supply Shortage**: Ajinomoto has held a near-monopoly in the ABF market for many years, but the rapid increase in AI demand raises the possibility that existing production capacity may quickly become insufficient. Semiconductor manufacturing processes are highly complex, and material supply often becomes a bottleneck, with ABF being no exception.
- **Pressure for Price Hikes**: A situation where demand outstrips supply typically leads to price increases. Semiconductor manufacturers tend to be willing to pay a premium to ensure a stable supply of critical materials. Ajinomoto is thus faced with the difficult decision of balancing long-term customer relationships with short-term revenue opportunities in this market environment.

Background & Context

The semiconductor industry is in a constant state of flux due to geopolitical risks, pandemics, and accelerating technological innovation. The rise of the AI sector, in particular, is exerting new pressures on the entire supply chain, where material manufacturers' supply capacity and pricing directly impact the cost and time-to-market of end products. Ajinomoto's ABF, due to its performance and significant market share, is considered a 'hidden cornerstone' in the semiconductor industry, and its developments have ripple effects across the entire sector.

Strategic Significance & Outlook

Discussions regarding potential ABF price increases by Ajinomoto are drawing close attention to what strategic decisions the company will make next. Whether it chooses further massive production capacity expansion or demand adjustment through price revisions, its decision will significantly impact the future supply and cost structure of AI chips. This situation serves as an important case study illustrating the challenges faced by semiconductor material suppliers and how they adapt to fluctuating market needs while maintaining advanced technological superiority.

Source: https://www.digitimes.com/news/a20260616VL220/demand-chips-materials.html

Polyurethane Adhesives Market Expands Driven by Automotive Electronics Miniaturization and Thermal Management Advances; Led by 3M, Henkel, Dow

Published June 18, 2026 openPR.com International

OVERVIEW

This article is an overview of a market research report featured by openPR.com. Polyurethane (PU) adhesives are solidifying their position as essential bonding materials in electronics manufacturing for component assembly, circuit securement, sensitive part encapsulation, and enhancing structural integrity. Key players like 3M, Henkel, Dow, Panacol-Elosol, DELO, and Nitto Denko are innovating formulations with superior adhesion, vibration damping, and thermal management for miniaturized, flexible automotive electronics, driving significant market expansion.

IN DEPTH

Key Findings

This article is an overview of a market research report featured by openPR.com. Polyurethane (PU) adhesives are reinforcing their role as indispensable bonding materials underpinning electronics manufacturing, particularly contributing to component assembly, circuit securement, the encapsulation of sensitive parts, and enhancing overall structural integrity. The market is being spearheaded by global leaders such as 3M, Henkel, and Dow, who are innovating new PU adhesive formulations boasting superior adhesion, vibration damping capabilities, and advanced thermal management properties, specifically for miniaturized and flexible automotive electronics applications.

Report Overview

This report analyzes the key drivers, market size, technological trends, and strategic approaches of major companies within the polyurethane (PU) adhesives market for electronics. It specifically focuses on the impact of evolving automotive electronics on the PU adhesive market, forecasting market expansion beyond 2026.

Key Findings

- **Versatility of PU Adhesives in Electronics Manufacturing**: Due to their excellent bond strength, flexibility, heat resistance, and electrical insulation properties, PU adhesives are used for fastening and protecting various electronic components. They demonstrate value in a wide range of applications, including component bonding to PCBs (Printed Circuit Boards), assembly of display panels, sensor encapsulation, and cable securement.
- **Miniaturization and Increasing Demands of Automotive Electronics**: With the proliferation of Electric Vehicles (EVs) and Advanced Driver-Assistance Systems (ADAS), electronic control units (ECUs) and sensors within vehicles are required to be smaller, more densely packed, and capable of withstanding harsh environments. PU adhesives contribute to protecting these devices from vibration, heat, and moisture, ensuring long-term reliability.

- **Enhanced Thermal Management and Vibration Damping Functions**: Recent PU adhesive innovations include formulations with excellent thermal management capabilities, achieved through the incorporation of thermally conductive fillers. This enables efficient cooling of high-heat-generating electronic components. Furthermore, the viscoelastic properties of PUs effectively dampen vehicle vibrations, reducing mechanical stress on electronic components.
- **Innovation by Leading Companies**: Industry leaders such as 3M, Henkel, Dow, Panacol-Elosol, DELO, and Nitto Denko are continuously developing custom-formulated, high-performance PU adhesives to meet market needs. These innovations include faster curing times, lower stress, and improved environmental compatibility.

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Source: https://tudomuaban.com/chi-tiet-rao-vat/2940768/polyurethane-(pu)-adhesives-in-electronics-market-key-drivers-shaping-industry-expansion.html

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