

ISSUE 22 – NOVEMBER 2026

NEWS FROM GERMANY

SCHMID Group launched QuantumLine P+, a panel-level plating platform filling through-glass vias in glass core substrates void-free at aspect ratios of up to 50:1 with 4-5 times the throughput of conventional systems, available to order from December 2026

SCHMID Group N.V. (today announced the launch of QuantumLine P+, a panel-level plating platform for the metallization of through-glass vias (TGV) in glass core substrates. QuantumLine P+ uses a bottom-up copper filling process that fills vias void-free at aspect ratios of up to 50:1 and hence addresses one of the critical process steps on the industry's path from pilot lines to volume manufacturing of glass core substrates.

Why TGV Metallization Matters
Glass core substrates are expected to become a key enabler for the next generation of AI processors and high-performance computing. Glass offers a flat, dimensionally stable core for larger packages and finer interconnects. The electrical connection through the core is made by through-glass vias, which have to be filled with copper reliably and without voids. As via aspect ratios increase, conventional conformal and bridge-fill plating approaches reach their limits. Seams and voids inside the via put electrical performance and long-term reliability at risk, and thick copper overburden on the panel surface adds cost in the following planarization step.

Bottom-Up Filling on Panel Level
In the QuantumLine P+ process, copper grows from the bottom of the via upward. The via is filled completely and void-free at aspect ratios of up to 50:1, with a uniformity of +/-6% across the panel Uniformity and throughput is another key advantage of the SCHMID solution. The QuantumLine P+ delivers outstanding plating uniformity for any design and via density at 4-5 times higher throughput compared to conventional plating systems. The process is designed for panel sizes of 510x515mm and glass thicknesses of 200 micrometres to 1500 micrometres.

The reliability of the filled vias has been confirmed in thermal cycling tests (TCT).

Part of an Integrated Glass Core Process Chain
QuantumLine P+ completes SCHMID's portfolio for glass core substrates. QuantumLine H+ covers TGV formation by wet etching and ultra-clean processing. PlasmaLine provides the seed layer by vacuum metallization. InfinityLine L+ planarizes the panel by chemical-mechanical polishing after via fill. With its combined expertise in wet processing, plating and vacuum metallization on panel level, SCHMID supports customers along the critical process chain, from TGV formation and metallization to build-up layers.
In November 2026, SCHMID announced an order for key wet-process equipment for South Asia's first glass substrate manufacturing facility. The launch of QuantumLine P+ extends the Company's offering for the main production step of glass cores with copper via filling.

Availability
QuantumLine P+ is available for order as of December 2026. Customer sampling and process demonstrations are offered at SCHMID's technology center in Freudenstadt, Germany.

Executive Statement
"Glass core substrates are moving from qualification to industrial scale, and the metallization of through-glass vias is one of the steps that decides whether this works in volume. With QuantumLine P+ we fill vias from the bottom up, void-free, at aspect ratios that conformal plating cannot reach reliably.
Together with our platforms for TGV etching, seed layer preparation and planarization, we now cover the critical process chain for glass core on panel level. That gives our customers one partner for these steps with highest level of integration and a faster path from development to production," said Christian Schmid, Chief Executive Officer of SCHMID Group.

Forward-Looking Statements
This press release may contain forward-looking statements within the meaning of the "safe harbor" provisions of the Private Securities Litigation Reform Act of 1995. Words such as "expect," "estimate," "project," "budget," "forecast," "anticipate," "intend," "plan," "may," "will," "could," "should," "believes," "predicts," "potential," "continue," and similar expressions are intended to identify such forward-looking statements. Forward-looking statements in this press release include, but are not limited to, statements regarding the order described herein and its recognition in order intake, the customer's planned facility, its capacity and ramp-up, the expected adoption of glass core substrates and other statements that are not historical facts. There are a significant number of factors that could cause actual results to differ materially from the statements made in this press release. Additional risks and uncertainties that could affect our financial results are included under "Item 3. Key Information - 3.D. Risk Factors" in our annual report on Form 20-F filed with the SEC on May 15, 2026, which is available on the SEC's website at www.sec.gov. Additional information will also be set forth in other filings that we make with the SEC from time to time. All forward-looking statements in this press release are based on information available to us as of the date hereof, and we do not assume any obligation to update the forward-looking statements provided to reflect events that occur or circumstances that exist after the date on which they were made, except as required by applicable law.

About the SCHMID Group
The SCHMID Group is a global leader in providing advanced equipment and process solutions for the high-tech industry, with a strong focus on electronics and semiconductor-related applications. Headquartered in Freudenstadt, Germany, and founded in 1864, SCHMID employs more than 800 people worldwide and operates technology centers and manufacturing facilities in Germany and China, as well as sales and service locations globally.

SCHMID develops customized systems and process solutions for the production of substrates, printed circuit boards and other electronic components. Its portfolio addresses a range of high-growth applications, including Advanced Packaging, semiconductor-related technologies, AI-driven electronics, printed circuit boards, substrates and glass-based technologies.

SCHMID's solutions enable customers to achieve high technology levels, high yields, low production costs, maximum efficiency, quality, and sustainability in advanced manufacturing processes.

For more information about the SCHMID Group, please visit www.schmid-group.com or contact investor-relations@schmid-group.com.

German circuit board maker Precoplat warned of shrinking European capacity, citing Unimicron Geldern closure in the first half of 2027, decided on the day Unimicron approved about EUR 1.4 billion of equipment orders mainly for integrated circuit substrates

November 19, 2026
Evertiq

German PCB manufacturer Precoplat warns that Europe's PCB supply is coming under pressure from two directions at once. While AI demand absorbs capacity and materials in Asia, Europe is losing its own production.

The Krefeld-based company points to two recent cases in Germany. Unimicron is closing its plant in Geldern, where production will be wound down during the first half of 2027, and Kubatronik has filed for insolvency. The timing could hardly be worse, Precoplat writes in a commentary.

According to Precoplat, the Unimicron case illustrates the divide. On the same day the Taiwanese parent decided to dissolve its German subsidiary, it approved equipment orders worth around EUR 1.4 billion, mainly for IC substrates and AI applications. The plant in Geldern made boards for industrial electronics, automotive and renewable energy, markets that are growing far more slowly than AI.

The AI boom also affects standard PCBs, the company argues. AI servers and conventional boards draw on the same materials, such as glass fabric, resin and copper foil, and shortages have begun to reach parts of the standard FR-4 segment, with the first allocation programmes from laminate and glass fabric suppliers. Precoplat says its own lead times

have also lengthened on some orders.

Smaller and mid-sized customers are the most exposed. Large buyers can sign long-term agreements for materials and capacity, while smaller companies often depend on what is available at the time. Precoplat advises them to qualify a second source early, by having a smaller share of recurring series produced there, so that production data, approvals and processes are already tested if demand rises.

The company also calls for European production to be taken seriously as a strategic issue. "Anyone aiming for technological independence and resilient supply chains must not lose sight of PCB manufacturing," Precoplat writes.

The warning comes the same week as the Global Electronics Association said the PCB shortage could rival the 2021 chip crisis, with meaningful relief unlikely before mid-2028.

Kubatronik Leiterplatten, a printed circuit board maker in Geislingen an der Steige, Germany, filed for insolvency and Goppingen District Court ordered provisional insolvency administration, case 3 IN 447/26 - Insolvenzmonitor

November 20, 2026
Insolvenzmonitor

Kubatronik Leiterplatten GmbH from Geislingen an der Steige: Insolvency filing, provisional insolvency administrator appointed
Provisional insolvency administration ordered: The Goppingen District Court announced the decision on 12.11.2026 (Case No. 3 IN 447/26).
Automatically generated notification based on the official declaration of insolvency and the commercial register. It contains no statements about causes, sales, or employees.

What the court has made known
In the insolvency proceedings of Kubatronik Leiterplatten GmbH, based in Geislingen an der Steige, the Goppingen District Court ordered provisional protective measures and established a provisional insolvency administration (file number 3 IN 447/26). The announcement was published on 12.11.2026.
The Company
Kubatronik Leiterplatten GmbH is registered in the commercial register as a limited liability company (Ulm, HRB 540816). The registered share capital amounts to 255,646 euros.
The business entity is registered: "Manufacture and distribution of printed circuit boards, unassembled and assembled."
The company has been registered in the commercial register since 10.02.1992.
These register details do not allow conclusions to be drawn about turnover, number of employees, or economic significance of the company.
What happens next
The security measures are intended to preserve the assets until the court has decided on the insolvency application. In this phase, among other things, it is examined whether the assets cover the costs of a procedure. Business operations can continue during this time.
Whether the proceedings will be opened remains open.



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NEWS FROM KOREA

Doosan planned to raise KRW 500 billion (USD 340 million) from South Korea's National Growth Fund to expand copper clad laminate plants running above 100% utilization on artificial intelligence data center demand, investment banking sources said

November 22, 2026
Seoul Economic Daily

Doosan (000150) is raising 500 billion won ($340 million) from the National Growth Fund to expand its copper clad laminate (CCL) production plants, responding to a surge in demand for high-value CCL driven by expanding investment in artificial intelligence data centers.

Analysts say Doosan Group is completing a semiconductor value chain that now spans semiconductor materials, wafers - the discs on which chips are built - through its acquisition of SK Siltron, and back-end processing at Doosan Tesna.

Doosan's domestic CCL production lines are already running above 100% utilization, leaving the company in need of added capacity through expansion, according to investment banking sources on the 22nd. "The company will raise funds from the National Growth Fund and the Korea Development Bank and invest in domestic plants, excluding China," one investment banking source said.

This is not Doosan's first expansion plan. The company previously announced it would invest 400 billion won by 2028 to build a CCL production facility for optical modules spanning about 33,000 square meters next to its flexible copper clad laminate (FCCL) plant in Gimje, Jeonbuk State. Adding the expansion of the Jeungpyeong plant through low-interest loans from the National Growth Fund is seen as a move to respond quickly to rapidly rising CCL demand. Unlike Gimje, which requires new construction, the Jeungpyeong and Gimcheon expansions can be completed relatively quickly.

Demand for CCL used in optical modules is surging as AI data centers proliferate and

networks shift to ultra-high speeds of 800G and above. Optical modules convert electrical signals between servers and network equipment into light signals, and CCL is a core material for printed circuit boards. Securities analysts said rising demand for optical module CCL is creating a seller's market. "With a CCL supply shortage expected to persist for the next two to three years, suppliers are likely to secure favorable pricing terms when signing long-term supply contracts," said Kim Min-kyung, an analyst at Hana Securities.

Doosan also plans to build a research and development center in Yongin, Gyeonggi Province. Doosan Group had initially planned to build an advanced technology R&D center focused on hydrogen research involving Doosan Enerbility, Doosan Fuel Cell and Doosan Mobility Innovation, but it is now expected to extend the center's scope to semiconductor R&D. The move aims to upgrade and strengthen technological competitiveness as the group completes its semiconductor value chain. Under the structure, SK Siltron produces wafers, the starting point of chip manufacturing, Doosan supplies CCL, and Doosan Tesna handles back-end processes such as wafer testing and package testing for system semiconductors.

The Korea Development Bank, together with Woori Bank, earlier arranged 2.5 trillion won in acquisition financing for the SK Siltron purchase.

Funding from the National Growth Fund is confirmed after a review of eligibility criteria including business viability, technology and creditworthiness, followed by deliberation and approval by an investment review committee and a fund management committee. Doosan has cleared the business viability and creditworthiness stages ahead of the investment review committee, meaning the loan process is effectively in its final phase. "The Korea Development Bank's support of low-interest loans for both Doosan's SK Siltron acquisition and its plant expansion reads as a show of commitment to fostering the advanced semiconductor industry," another investment banking source said.

The National Growth Fund provides low-interest loans to advanced strategic industries and their ecosystems, including AI, semiconductors, secondary batteries, biotechnology and energy infrastructure. It has previously extended low-interest loans of 2.5 trillion won to Samsung Electronics' (005930) fifth production line in Pyeongtaek, 1.5 trillion won to LG Display (034220) and 750 billion won to the Sinan Ui offshore wind power project. It also provided 300 billion won to SK Bioscience (302440) to secure production facilities and made a 250 billion won direct investment in Rebellions.

Beyond Doosan, domestic materials, parts and equipment companies are also expanding investment. Kolon Industries (120110) has added production lines for modified polyphenylene oxide (mPPO), a low-dielectric material that reduces electrical signal loss in semiconductor circuit boards, in response to growth in the AI and semiconductor industries. LG Chem (051910) is also investing in CCL, aiming to broaden its applications from memory chips to non-memory areas such as system-in-package (SiP).



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NEWS FROM SWEDEN

NCAB Group held talks with customers on printed circuit board supply chain resilience, materials and pricing at electronica 2026 in Munich and scheduled seminars on supply chains in the age of artificial intelligence and on impedance engineering

November 23, 2026
PCB Directory

At electronica 2026 in Munich, Germany, a major international trade fair for the electronics industry, NCAB Group, a supplier of printed circuit boards (PCBs), participated in discussions covering PCB supply chain resilience, material challenges, pricing, and advanced PCB design. The company welcomed visitors to its stand in Hall A2, Stand 243, where its specialists engaged with electronics manufacturers and customers on technical and procurement-related requirements.
Alongside these discussions, NCAB Group contributed to the event's technical program through seminars addressing resilient PCB supply chains in the age of artificial intelligence (AI) and advanced impedance engineering.

At the exhibition, PCB Directory met with Scott Williams from NCAB Group UK, who discussed the company and its participation at electronica 2026. Williams described NCAB Group as Europe's largest PCB supplier and explained that its team was engaging with customers and prospective customers on supply chain challenges, material-related concerns, and pricing.

He also highlighted the availability of specialists at the stand to address questions involving different aspects of PCB sourcing and manufacturing.

One of the key topics addressed by NCAB Group at electronica was PCB supply chain resilience in the age of AI. Chris Nuttall, Chief Operating Officer at NCAB Group, was scheduled to present a seminar titled Resilient PCB Supply Chains in the Age of AI at the PCB, EMS & Components Marketplace in Hall A1.

The session placed PCB supply chain resilience within the context of AI, complementing the sourcing and material-related discussions taking place at the company stand. NCAB Group announced the seminar as part of its second-day activities at the exhibition.

The company also brought attention to the technical aspects of PCB design through a seminar titled Advanced Impedance Engineering in PCB Design, presented by Huseyin Anac, Field Application Engineer at NCAB Group Germany. Scheduled for the third day of electronica at the PCB, EMS & Components Marketplace in Hall A1, the session focused on impedance engineering, an important consideration in PCB designs where electrical signal characteristics must be controlled. The subject is particularly relevant to high-frequency and high-speed electronic circuits, where PCB conductor geometry and material properties influence signal transmission.

These two seminar topics reflected different aspects of PCB development and manufacturing. While the supply chain session addressed resilience in PCB sourcing, the impedance engineering session focused on a technical design consideration affecting electrical performance. Together with the material and pricing discussions described by Williams, they illustrated the range of subjects NCAB Group brought to electronica, from procurement decisions to PCB engineering requirements.

Throughout the four-day exhibition, NCAB Group continued meeting visitors at its stand, including customers and prospective customers seeking information about PCB-related challenges. The company also highlighted the presence of Oliver Grussinger among its representatives during the third day of the event. Its post-event communication confirmed that the exhibition had provided opportunities for discussions with attendees across the electronics industry.

The participation of NCAB Group at electronica 2026 brought together two closely connected areas of electronics manufacturing: securing a resilient PCB supply chain and addressing the technical requirements of PCB design. Through its discussions on materials, pricing, and sourcing, alongside seminars on AI-era supply chain resilience and impedance engineering, the company highlighted how PCB procurement and electrical design considerations both contribute to manufacturing decisions. For engineers and electronics manufacturers, the event provided an opportunity to engage with specialists on the practical and technical challenges involved in sourcing and developing printed circuit boards.



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NEWS FROM THAILAND

Thailand goes from strength to strength in the PCB and PCBA sectors.

Thailand holds a modest but strategically important place in the global semiconductor value chain, serving mainly as a hub for back-end and downstream operations. It is especially strong in PCB and printed circuit board assembly (PCBA), with facilities that produce advanced multi-layer and high-density PCBs, largely for export. This capability rests on a broad ecosystem of foreign integrated device manufacturers, electronics manufacturing services providers, and outsourced semiconductor assembly and test firms. Although Thailand's front-end semiconductor fabrication remains relatively underdeveloped, government policies and targeted investment programmes show a clear ambition to change this.

Although the rapid expansion of AI data centres, cloud services and IoT devices within the region is further driving demand for advanced packaging, semiconductors and high-density PCBs, manufacturers targeting foreign markets are increasingly exploring relocation opportunities, particularly in the electronics assembly and PCB sectors.

Specifically for PCBs, well-established ecosystems with sufficient upstream suppliers and downstream buyers provide a lower risk entry environment for new investors. Hong Kong PCB and electronics production companies such as Elec & Eltek Group and Skytech have been operating in Thailand's PCB market for a number of years.

To manufacturers looking to relocate, Northern Bangkok offers great connectivity to the capital's airports and a large pool of engineers and technicians experienced in cleanroom operations, IC packaging and PCB assembly. The region boasts a rich water supply, making it especially suitable for electronics manufacturing, which requires high water usage for process such as etching.

While foreign and domestic manufacturers are expanding their production capacity, demand for total solutions encompassing equipment sourcing and system integration services has intensified. Industry experts indicated that electronics manufacturers operating

in Thailand adopt a "Quality First" model when it comes to machinery procurement, prioritising reliability and precision over upfront cost savings.

Particularly for PCB fabrication and PCBA, Thailand's major contributions to the electronics sector, practitioners tend to source wet-processing-related machinery such as etch M/C, cleansing systems and plating equipment primarily from the Chinese Mainland, where suppliers offer competitive pricing and increasingly sophisticated capabilities tailored to high-volume production environments. Testing and inspection equipment, however, continues to be sourced predominantly from the U.S., Europe and Japan, which provide higher precision and long-term calibration stability.



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NEWS FROM THE USA

MacDermid Alpha Electronics Solutions acquired the Printed Electronics high-performance inks business of ELANTAS, a business of ALTANA, covering conductive, insulating and functional screen-printing inks for flexible printed electronics

MacDermid Alpha Electronics Solutions is pleased to announce the acquisition of the Printed Electronics high-performance inks business from ELANTAS, a business of ALTANA AG. The product portfolio is comprised of conductive, insulating, and functional screen-printing inks designed for the flexible printed electronics market.

The acquisition brings together the Printed Electronics business with MacDermid Alpha's extensive experience in electronics materials and the established expertise of its Microelectronic Material Solutions business in advanced electronic inks and pastes.

MacDermid Alpha Electronics Solutions, a business unit of Element Solutions Inc, is a global leader in high-performance specialty chemicals, materials, and process technologies for every stage of the electronics manufacturing process. Its expertise spans circuitry formation, wafer-level packaging, circuit board assembly, semiconductor assembly, and film and smart surfaces.

The addition of the ELANTAS Printed Electronics technology provides a strong foundation and step forward to support the continued development of customer applications and future opportunities in Flexible Printed Electronics.



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PCB RAW MATERIAL NEWS

Printed circuit board and chip substrate supply tightened worldwide with rising prices driven by artificial intelligence servers absorbing high-layer-count capacity, threatening costlier motherboards and longer lead times - Global Source Laminate and prepreg prices reached 3.5 to 4.5 times their January 2025 level, with 7628 prepreg up 3.7 times and high-end copper foil processing fees up 30-50% since December 2025, and FR-4 supply tightened on artificial intelligence demand - Confidee

November 23, 2026
Raymond Goh
Evertiq

Author: Raymond Goh, COO, Confidee
What is the status?
Our own experience in recent weeks shows what the graphs are indicating: longer lead times and difficulty securing supply as AI absorbs scarce capacity, effectively putting production at risk.

Several leading laminate suppliers continue to reduce their capacity allocation to FR-4 and focus on advanced materials.
Panasonic has shifted manufacturing capacity away from standard FR-4 toward AI-driven high-speed laminates (such as the MEGTRON series), contributing to industry-wide FR-4 end-of-life (EOL) notices and tightening supply.

Others remain unavailable to the general market, or only on very long lead times. Availability now differs by supplier, product and glass style, and can change within weeks. The question of whether you have availability is more important than what the cost is. Most PCB suppliers are getting their allocations cut, with no warning and little room for negotiation.

The alternatives for standard FR-4 are narrowing, increasing the importance of equivalent

laminates and prepregs, where technically acceptable. It also increases the advantage of defining the performance attributes you need, rather than a single material.

Material challenges
FR-4 itself has not changed, but it now competes with AI materials for the same glass cloth, copper foil and press capacity, and those products earn laminate makers more.

Low-loss laminates (MEGTRON class) are moving up to MEGTRON 7 and 8 grades for AI servers and switches. These grades rely on low-Dk glass cloth and HVLP copper foil, both tight.

On 4 November, a fire at Panasonic's Hukou plant in Taiwan, a key MEGTRON site, put an estimated 4% of global high-end CCL supply at risk. No restart date has been published. Laminate prices increasingly depend on glass style. In October, one of the largest laminate makers raised prices by 15% on laminate and prepreg using 2116 or thinner glass cloth. Another leading maker is reported to be planning a further 15% increase on laminates and 25% on prepreg from November, which has not yet been confirmed. At the low end, some smaller laminate manufacturers are finding it hard to maintain consistent supply as they relied on the established laminate suppliers for the glass cloth.

Copper and copper foil
Copper has eased: LME copper fell from USD 14,449 per ton on 30 October to USD 12,570 on 19 November. This has not slowed laminate prices, which are now driven by glass cloth and capacity rather than metal. Heavy copper requiring more than 2oz continued to be tight. Processing fees for high-end HVLP copper foil have risen 30-50% since December 2025, and major new foil capacity is not due until 2031.

Resin. No new verified price data this month. Electronic-grade epoxy has stayed elevated through 2026, and resin for high-speed laminates remains tight.
Drill bits - do they follow?
Consumables are rising too. PCB drill bits rose by more than 50% from late 2025 to the third quarter of 2026, as demand for tungsten carbide drill bits increased tremendously. As the PCB layers increase, the drill hits or lifespan of the drill bits decreases.

Is AI demand slowing?
Reports of slowing data centre projects point to power, environmental permits and water supply, not falling demand. We still see high intake of advanced materials for data centres and AI-related products.

Prices and lead times
Laminate and prepreg prices are now 3.5 to 4.5 times their January 2025 level, based on general market updates from the producers for TG150 1.5 mm H/H laminate and 7628 prepreg. Prices were broadly flat through most of 2025, took off from March 2026, and have risen almost every month since.

Material (index, January 2025 = 100)	Dec 2025	Nov 2026	Change since Jan 2025
FR-4 laminate (Tg150), supplier A	147	451	+351%
FR-4 laminate (Tg150), supplier B	126	348	+248%
7628 prepreg	110	405	+305%

7628 prepreg rose fastest in 2026. 7628 is one of the most widely used prepreg styles in standard multilayer boards. Its price was flat until autumn 2025 and only 10% above January 2025 by December. Since then, it has risen 3.7 times, faster than either laminate, in step with 7628 glass cloth.

These trends match the wider market. One leading laminate maker has issued 12 price increases since February 2025, reported at about +230% cumulatively. Our index reflects actual purchase prices, which can differ from published list-price increases.

What this means for PCB prices
Laminate and prepreg are among the largest material costs in a finished board, and copper foil, glass cloth and resin all sit upstream of them. When these inputs rise three to four times, PCB prices cannot stay where they were. Across the industry, PCB manufacturers have raised prices through 2026 as material costs pass down the chain. Official U.S. producer prices for bare PCBs, for example, were 45% higher in August 2026 than a year earlier.

This is an industry-wide cost shift, not a single supplier's decision. Finished-board prices typically rise less than the materials themselves, because materials are only part of a board's cost. The increase also depends on the stack-up: boards built on thin glass styles or prepreg-heavy constructions are affected most.

The Global Electronics Association reports lead times of 16-20 weeks or more for high-layer PCBs and does not expect meaningful relief before mid-2028. We expect FR-4 lead times to become longer and less predictable, and pricing to remain material-dependent into 2027, with shorter quotation validity.

We recommend the following: -

- Allow equivalent laminates and prepregs, including for FR-4, where technically acceptable.

- Define the performance attributes you need rather than a single material.
- Use the IPC Slash Code or Slash Sheet to select a material equivalent group, such as IPC 4101/ XXX.
- Review whether thin glass styles or low-loss materials are strictly necessary and qualify alternatives now.
- Release orders early, based on real demand, and avoid duplicate orders.
- Share realistic forecasts covering for the rest of 2027 already now.
- Plan budgets for higher PCB prices in 2027 and expect quotations to follow material costs more closely than before.

At Confidee, we often say: define the attributes you need, not the exact material. We will continue to provide transparency, documentation and close communication, so our partners can secure supply with as much predictability as today's market allows.

Printed circuit board raw material shortage stretched high-end laminate lead times to as long as 140 days in 2026, with South Korea's copper-clad laminate import price up 74.5% year-over-year to $20,728 per ton in March - NextPCB, Korea Customs Service

November 23, 2026
NextPCB

If you've requested a PCB quote in the last few months and watched the price change before you even placed the order, you're not imagining things. The 2026 PCB raw material shortage is real, it's measurable, and, unlike past cycles driven by seasonal consumer electronics demand, it is being pushed by two forces hitting the supply chain at the same time: explosive AI server demand, and structural capacity limits in copper foil and glass fabric production that can't be solved by simply building more factories.

This article pulls together reporting from Reuters, TrendForce, DIGITIMES, Prismark, the London Metal Exchange, and Korea Customs Service data, along with press reports of supplier price notices from Kingboard, Resonac, Mitsubishi Gas Chemical, and Panasonic, to give a picture of what's happening, why, and, more importantly, what buyers and design teams can actually do about it while the market stays tight. We have not seen the supplier notices themselves, so supplier figures are as reported.

Updated October 21, 2026: we corrected several figures and removed claims we could not verify.
1. Is there really a PCB material shortage in 2026? (Quick answer)
Yes. Copper-clad laminate (CCL) prices have risen sharply across grades in 2026, with some standard FR-4 segments in China more than doubling from early-2025 levels. Lead times for high-end laminates have stretched to as long as 140 days, and several major suppliers have moved to allocation-based ordering instead of open supply. The global PCB market is projected to reach $95.8 billion in 2026, a 12.5% increase, according to Prismark as cited by Reuters, driven largely by AI infrastructure demand pulling capacity away from standard electronics.
This isn't a single-material blip. It's a simultaneous squeeze across copper, glass fabric, and

resin, the three raw materials every copper-clad laminate is built from.
A manufacturer's view: From where we sit on the production floor, the headline numbers look alarming, but the situation is more manageable than it appears from the outside. The sharpest pain is concentrated in a narrow band of the market: M8/M9-grade material feeding AI server production. Standard FR-4 and mid-tier laminate, which cover the large majority of commercial and industrial PCB orders, are tighter and pricier than a year ago, but they are not in crisis. The teams that get hurt are the ones who find out about a material problem at the point of production release. The teams that don't are the ones who build a materials-availability check into their DFM process and talk to their fabricator early. That second group is having a fairly ordinary year.

2. Timeline: how the 2026 shortage unfolded
Most coverage of this shortage treats it as one event. It wasn't, it built in stages over many months, and understanding the sequence helps explain why the market hasn't stabilized yet.
Timeline of the 2026 PCB raw material shortage

Period	Event
Late Feb 2026	Smaller domestic CCL producers begin raising prices on standard grades (HB, 22F, CEM-1), citing glass fabric, copper foil, and chemical input costs.
March 2026	Resonac's 30%+ price increase across its CCL and prepreg lineup takes effect from March 1, citing copper foil and glass-cloth constraints (Taiwan News). Kingboard issues its first 2026 price notice on March 10 (+10% on laminate, prepreg and copper-foil processing fees), the first of a series of notices through the year.
April 2026	Mitsubishi Gas Chemical raises prices by more than 30% on CCL, bonding sheets, and copper-foil resin sheets, effective April 1 (TrendForce). Kingboard issues notices on April 3 and April 28 (+10% each). Reuters reports that Goldman Sachs analysts estimate PCB prices rose as much as 40% in April versus March (Reuters).
May 2026	Korea Customs Service data, released in early May, shows South Korea's CCL import price reached $20,728 per ton in March, up 74.5% year over year and the first time it exceeded $20,000 per ton since records began in 2000. TrendForce also reports buyers placing advance orders to secure supply (TrendForce). Kingboard's May 27 notice: laminate +10%, prepreg +20%.

Period	Event
June 2026	Kingboard's June 16 notice raises FR-4 laminate and prepreg by 15%, its fifth notice of the year. Standard FR-4 spot prices in China climb past 230-260 RMB per sheet, a new historical high (versus roughly 110-150 RMB a year earlier). Several producers move to customer quota systems rather than open orders.
July-August 2026	Kingboard raises FR-4 prices again on July 6 (+15% on FR-4 1.3 mm and thicker) and August 28 (FR-4 laminate +10%; prepreg 7628-and-thicker +10%, thinner than 7628 +20%) (SMM). Lead times for advanced laminates reach up to 140 days; standard FR-4 that once shipped in days now takes roughly four weeks from major suppliers. Industry press continues to describe AI demand as the primary bottleneck.
September-October 2026	Panasonic's new prices apply to products shipped from September 1, with some items up as much as 30% (DIGITIMES). On October 13-14, Kingboard raises laminate and prepreg made with thin glass cloth by 15%, its eighth notice of 2026 (DIGITIMES).

The pattern is important: this wasn't one price shock that faded. It was a compounding sequence, and each stage added new pressure on top of the last.

3. What's actually driving the shortage

3.1 AI server demand is absorbing high-end capacity

AI servers don't just need more PCBs; they need dramatically more expensive ones.

According to a Morgan Stanley bill-of-materials teardown reported in May 2026, the PCB content in a single AI server rack rises from about $35,100 for Nvidia's GB300 platform to about $116,700 for Rubin, an increase of roughly 233% per rack (Cnyes). Reports indicate these newer platforms specify higher-grade laminate (M8/M9-class) on some boards. That is pulling premium production capacity away from every other segment of the market, including the standard FR-4 boards used in routers, laptops, and mid-range consumer electronics.

Because high-margin AI-grade material is more profitable for CCL producers to manufacture, factories are prioritizing those orders, which tightens supply for everyone else even when their own demand hasn't changed.

3.2 Upstream material bottlenecks: copper, glass fabric, and resin

A copper-clad laminate is built from three core inputs, and all three are under pressure at once:

Copper on the London Metal Exchange rose above $13,300 per tonne in January 2026, a record at the time (Mining.com), directly raising the cost of copper foil, plating, and finished laminate across every PCB category.

Electronic-grade glass fabric, particularly the low-CTE (coefficient of thermal expansion) variants required for high-end boards, is in genuine physical shortage, not just a pricing issue. Major weaver Nittobo expects its output to reach about three times its fiscal-2025 level by the fiscal year ending March 2029, according to Nikkei as cited by TrendForce. Its company notice says the "roughly three times" figure applies if all added capacity goes to T-glass cloth for advanced logic ICs, and that production at the new Fukushima building is scheduled to begin in the fourth quarter of fiscal 2026.

High-end HVLP copper foil, used for low-loss, high-speed applications, is effectively controlled by three producers, Mitsui Kinzoku, Circuit Foil Luxembourg, and Co-Tech Development, who together account for an estimated 80-90% of global supply. Qualifying a new HVLP foil source can take three to five years, so capacity simply can't respond quickly to demand spikes.

This is why the shortage isn't resolving itself the way a normal price cycle would: two of the three core inputs are capacity-constrained by physics and qualification timelines, not just by price.

3.3 The April price spike

Prices accelerated in April. Reuters, citing a Goldman Sachs analyst note, reported that PCB prices rose as much as 40% in April compared with March. That figure is an analyst estimate rather than measured transaction data. In the same report, an industry source said copper foil prices had risen as much as 30% so far this year (Reuters). Treat both as signs of direction and speed, not as a price you should expect on every board.

4. Not all PCB materials are affected equally

One thing missing from most coverage of this shortage: the impact is not uniform across material grades. If your project uses standard FR-4, your risk profile looks very different than a team specifying M8/M9 high-speed laminate.

Impact and lead time by PCB material grade, mid-2026

Material type	Typical use case	Impact level	Approximate lead time (mid-2026)
Standard FR-4	Consumer electronics, general industrial	Moderate, price up, supply tight but available	~2-4 weeks
High-speed/high-frequency (M6-M8)	Networking, telecom, high-layer-count boards	Severe, direct competition with AI server demand	8-16 weeks

Material type	Typical use case	Impact level	Approximate lead time (mid-2026)
M9-grade ultra-low-loss	AI/ML servers, 1.6T switching, advanced GPU platforms	Most severe, allocation-based, limited qualified sources	Up to 140 days, quota-dependent
HDI / build-up laminate	Smartphones, wearables, compact high-density boards	Moderate-severe, competes for high-end glass fabric and thin copper foil	6-12 weeks
Metal-core / thermal management substrates	LED, automotive, power electronics	Lower-moderate, less overlap with AI-grade material demand	~3-6 weeks

If your design can tolerate a lower-tier material without compromising performance, you're in a materially better position right now than a team locked into a specific high-end grade.

5. Regional snapshot: China, Japan, and Korea

China

Domestic CCL leaders including Kingboard, Shengyi Technology, and Nan Ya New Material have issued repeated price notices through 2026, with several moving to quota-based allocation for major customers. Downstream PCB fabricators including Shennan Circuits and Chongda Technologies have followed with their own adjustment notices as material costs pass through.

Japan

Resonac (from March 1) and Mitsubishi Gas Chemical (from April 1) both announced increases of more than 30% across CCL and related lines. Panasonic Industry has issued price notices as well: an April notice for increases of up to 30% on some laminates, prepreg, and composite boards from May 1, and an August notice for increases of up to 30% on products shipped from September 1 (DIGITIMES).

South Korea

Import price data from Korea Customs Service shows the clearest single data point of how severe this cycle is: a 74.5% year-over-year jump to $20,728 per ton in March 2026 (TrendForce). South Korean firm Doosan plans a new CCL plant in Thailand to serve AI data center demand, with construction due to begin in 2026 and mass production targeted for the second half of 2028.

6. What this means for your production schedule

Three practical realities buyers are dealing with right now:

Lead times have shifted the planning baseline. A "standard" 2–3-week laminate lead time in early 2025 is now closer to 4 weeks for FR-4 and can stretch to 140 days for high-end grades. If your project timeline was built on last year's lead times, it's already out of date.
Quote validity windows are shrinking. With suppliers updating prices weekly in some segments, many manufacturers can no longer hold a quote for 30 days the way they once could. Expect shorter validity periods and build that into your budgeting cycle.

Allocation, not just price, is now the constraint. For M8/M9-grade materials in particular, some suppliers are capping how much any single customer can order regardless of price, meaning early commitment matters more than price negotiation.
A simple way to assess your own exposure: if your project depends on a single high-end material grade with a tight production window and no qualified alternate, you're in the highest-risk category. If you're using standard FR-4 with some schedule flexibility, your exposure is manageable with normal planning discipline.

7. How to protect your project: a buyer's action checklist
Confirm material availability before you release for production, not after PO placement. A DFM review that includes a materials availability check can catch a problem while there's still time to act.
Qualify alternate materials in advance. Know which laminate grades can substitute for your primary spec without compromising electrical or thermal performance, and get sign-off before you need it, not during a delay.
Standardize stackups across product lines where possible. Using common materials across multiple designs improves both inventory efficiency and your leverage with suppliers.
Move to forecast-based ordering. Suppliers are prioritizing customers who commit early. If your volume allows it, sharing a rolling forecast, even an informal one, measurably improves allocation priority.
Talk to your fabricator early, not just your material supplier. An experienced manufacturing partner with multiple qualified material sources can often absorb volatility that a single-source relationship can't.

8. Outlook: when will the shortage ease?
Nobody can say for certain, and relief will be uneven across material categories:
Glass fabric stays constrained until new capacity ramps up. Cloth makers told Chinese financial media that most new capacity is expected only by the end of 2027 (Cailian), and Nittobo's own expansion is scheduled to start producing in the first quarter of 2027 and build up through March 2029.

HVLP copper foil remains the tightest link given three- to five-year qualification cycles for new sources, don't expect meaningful new supply before 2028 in the most advanced grades.
Signals worth tracking if you want to gauge when things are turning: the frequency of CCL price notices slowing down, standard FR-4 lead times returning toward 2-3 weeks, and copper prices stabilizing below record levels.

9. Is this connected to the broader electronic component shortage?
Yes, but it's a related problem, not the same one. The PCB raw material shortage covered in this article is a board-level issue, it affects copper, glass fabric, and resin, the physical inputs

that become the bare board itself. The broader electronic component shortage is a part-level issue affecting semiconductors, memory (DRAM/NAND), MCUs, and passives that get assembled onto that board.

Both are being driven by the same root cause, the scale of AI infrastructure investment in 2026, but they involve different supply chains, different bottlenecks, and different mitigation strategies. If your project is exposed to component-level shortages as well as material shortages, they need to be planned for separately.

Sources: Reuters (via StreetInsider), TrendForce, May 2026, TrendForce, August 2026, DIGITIMES (Panasonic), DIGITIMES (Kingboard), SMM, Taiwan News, Mining.com (LME copper), Cnyes (Morgan Stanley BOM teardown), Cailian, and Nittobo's August 2025 capacity-expansion notice. Supplier price figures are as reported by these outlets; we have not seen the supplier notices themselves.



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PCB TECHNOLOGY NEWS

CircEl-Paper research project built multilayer paper-based printed circuit boards with up to four-layer circuitry, recovering up to 89% of the silver in recycling trials, coordinated by the Fraunhofer Institute for Silicate Research

November 20, 2026
Fraunhofer ISC (via idw)

The volume of electronic devices in the EU is growing faster than the recycling of the resulting electronic waste (e-waste). The key levers for better circularity are simplified recycling and more sustainable materials. This approach was pursued by the EU-funded research project CircEl-Paper. It has demonstrated the practical feasibility of paper-based printed circuit boards (PCBs) for a more circular electronics industry and has manufactured demonstrators for three concrete use cases.

Key product developments include improved paper substrates for PCBs made from both virgin and recycled fibers, along with printing inks for printed electronics based on recycled silver and bio-based binders.

According to official statistics, every citizen of the European Union generates around 12 kg of e-waste per year (ref. 1), with roughly 5.5 million metric tons collected in total in 2024. While the volume of devices placed on the market across the EU has risen by 82% since 2015 to more than 14 million metric tons, e-waste collection and recycling grew by only 72% over the same period. Recycling electronic printed circuit boards poses a particular challenge.

These boards are typically made of composites such as FR4, a glass-fiber-reinforced epoxy laminate characterized by flame-retardant properties, high dielectric strength, and thermal stability. Multiple layers of conductive tracks and components are embedded in, assembled on, and interconnected within this composite material. As a result, such PCBs are difficult to separate into their constituent parts and to recycle due to the non-recyclable FR4 composite.

Taking this as its starting point, the CircEl-Paper project team developed the idea of replacing FR4 with paper composites and using it to build multilayer PCB substrates that can be easily broken down in an adapted paper recycling process using slightly modified aqueous process steps. The team also set out to find a more environmentally friendly substitute for the conductive tracks, together with a simple, economical manufacturing process, supported by a comprehensive life cycle assessment and an evaluation of ecotoxicity.

Project coordinator Gerhard Domann of the Fraunhofer Institute for Silicate Research summarizes what was achieved over the four years of the project: "In CircEl-Paper, we successfully brought together two approaches. The first was to evaluate paper composites as substrates and their behavior in near-conventional PCB manufacturing. Since paper is in itself also suitable for high-throughput technologies, our second approach was to apply concepts from printed electronics to roll-to-roll processes on paper. Both approaches can be combined. This enabled us to produce multilayer paper PCBs with double-sided or even four-layer circuitry, plated-through VIAs, lamination, and hybrid integration of electronic components."

Circuit boards made from paper - is that even possible?
The good news first: yes, the CircEl-Paper team has shown that paper can be used as a substrate for electronic circuits, and that the printing resolution already attainable with screen-printing processes is sufficient to produce simple electronic devices. For the final phase of the project, the team chose three typical examples of disposable electronics as use cases: a roll-to-roll printed glucose sensor of the kind used by people with diabetes to measure their blood glucose levels, a four-layer temperature-time sensor for monitoring sensitive goods during transport and storage, and a foldable sound card for recording and playing back music or spoken messages in greeting cards. All three use cases were successfully implemented using the paper-based PCBs and the other materials developed in the CircEl-Paper project. Recyclability was also demonstrated.

"But the road to get there was rocky," says Domann. "We faced major challenges, such as flame retardancy, moisture absorption, and surface roughness - all essential requirements for use as a PCB material. However, the better the technical properties of the paper composites became, the greater the impact this had on the standard paper recycling route." In the end, the team succeeded in producing paper PCBs with high resolution and reliability, designed for the requirements of the respective applications. For more demanding applications, the complexity of the circuits can be increased.

Environmentally friendly solutions for greater stability and flame retardancy
To be used as a PCB material, paper must be treated with flame-retardant substances in an impregnation process. To ensure that this does not come at the expense of recyclability and environmental compatibility, the project partners QSAR Lab and Joanneum Research evaluated the different material options in life cycle assessments and toxicity modeling. The roll-to-roll manufacturing and modification processes developed by the project partners Fedrigoni, RISE, and Joanneum Research were optimized for paper based on both virgin and recycled fibers and scaled up to larger volumes. Using this paper together with suitable adhesives and laminating processes, multilayer PCBs could be manufactured. The multilayer

laminated papers exhibited the desired stability. While the recyclability requirements placed on the paper did cause some difficulties in the electroplating process, basic feasibility was demonstrated, and further paper development by project partner Fedrigoni reconciled functionality with recyclability.

Recycled silver for printed conductive tracks

In electronics, silver is - alongside copper - the metal of choice for manufacturing conductive tracks, thanks to its outstanding electrical conductivity and reduced tendency to oxidize. In life cycle assessment, however, silver as a primary raw material is rated as critical owing to the high environmental impact of mining and processing. The CircEl-Paper team therefore consistently relied on recycled silver.

As part of the CircEl-Paper project, VFP Ink Technologies developed SECTR (Silver Electron Chemically and Thermally Resistant), an innovative silver conductive ink formulation incorporating recycled silver and bio-based binders. The ink formulation, commercialized as SECTR by VFP Ink Technologies, combines high electrical conductivity with strong chemical and thermal resistance. Developed for industrial screen-printing applications, SECTR demonstrates the potential of advanced functional inks to support both high-performance printed electronics and resource-conscious manufacturing processes. The ink formulation can be processed at low temperatures, starting from 50 degrees C, and has a long shelf life; it reduces the use of critical primary raw materials and is currently being prepared for commercialization. Further material formulations for active components were developed and tested by Fraunhofer ISC and Joanneum Research.

Assessment of recyclability and ecotoxicity

Recycling trials conducted by project partner Grenoble INP-UGA confirmed that printed and encapsulated paper PCBs can be processed in adapted paper recycling processes. Cellulose fibers are recovered, and silver and polymer fractions are separated out. High silver recovery yields were obtained with untreated papers (up to 83%) as well as with impregnated papers (up to 89%). The separated silver fraction was recovered and integrated into the formulation of new ink. The cellulose fibers recovered from impregnated paper still carry the impregnating agents. Tests need to be carried out in order to evaluate the potential of manufacturing new electronic devices from these fibers that still contain impregnating agents.

To assess ecotoxicity, the key components of the PCB paper and of the other materials used in the production of printed electronics were evaluated by project partner QSAR Lab using predictive models. The effects on various well-established model organisms were investigated. The analysis provided important insights into the toxicity profiles of these ingredients and made clear that careful substance selection is required to minimize potential risks to health and the environment. Overall, based on the available experimental data and computer-based toxicity assessment methods, most of the precursors and components of the material can be classified as relatively safe.

In parallel to the classical life cycle assessment carried out by project partner Joanneum Research, Fraunhofer ISC developed a knowledge and data platform (based on openLCA) for dynamic (time-dependent) and prospective (future-scenario-based) life cycle assessments, with the aim of supporting technology decisions at a very early stage of development

through simplified LCA calculations. This building block allowed the project partners to specify their individual process flows in a standardized, machine-readable form. The process flows could then be imported directly into openLCA, with the definitions of the process chains preserved. Technically, this was implemented via a form-based user interface for process experts. By the end of the project, more than 150 materials, linked by more than 50 processes, were registered on the data platform. After the end of the project, the platform remains accessible as an archived dataset.

PCB paper also suitable for conventional manufacturing processes

Project partner ICAPE-MMAB played a central role in evaluating how the technologies and materials newly developed in CircEl-Paper perform in practice. ICAPE-MMAB tested and assessed the CircEl-Paper composites in its test production line under near-to-conventional PCB manufacturing conditions. However, the paper substrate is not compatible with conventional PCB processes since the chemistry used affects the paper stability. However, electroplating and etching can be conducted in modified "mild" conditions. These processes have to be scaled up to be compatible with PCB manufacturing technologies. Conductive patterns were produced using near-to-standard PCB technologies, and conductive VIAs were created by electroplating.

The structures achieved showed significantly higher conductivity than purely printed conductive tracks and enabled the production of multilayer demonstration samples. Also, based on printing technologies and lamination technologies, an alternative PCB technology can be set-up using printed structures as seed layer for galvanization. With these results, the CircEl-Paper project has opened the way for the further development of paper-based PCBs using more environmentally friendly materials - for a circular electronics industry.

Ref. 1: https://ec.europa.eu/eurostat/statistics-explained/SEPDF/cache/32212.pdf?v=11958...

Project information
Name: Circular Economy Applied To Electronic Printed Circuit Boards Based On Paper (CircEl-Paper)
EU disclaimer: Funded by the European Union, Grant No.: 101070114
Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union. Neither the European Union nor the granting authority can be held responsible for them.
Call: HORIZON-CL4-2021-DIGITAL-EMERGING-01
Duration: 2022/09 - 2026/08
Partners:
Fraunhofer Institute for Silicate Research ISC, Wurzburg, Germany (project coordination)
Fedrigoni - F1 Paper, Grenoble, France
ICAPE-MMAB, Malmo, Sweden
Grenoble INP-UGA, Grenoble, France
Joanneum Research, Graz, Austria
QSAR Lab, Gdansk, Poland
RISE, Stockholm, Sweden
VFP Ink Technologies, Ales, France

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ISSUE 22 - NOVEMBER

ECONOMIC NEWS FROM ASIA

Asia investment spending was forecast to rise to $16 trillion by 2030 from $11 trillion in 2025, with broader industrial investment in manufacturing, energy and defence making up $2.3 trillion, or 47%, of the $5 trillion increase in annual investment - Morgan Stanley

November 24, 2026
The Economic Times

Asia's investment spending is projected to rise to $16 trillion by 2030 from $11 trillion in 2025, as industrial investment expands beyond artificial intelligence and semiconductors into energy, defence and manufacturing, according to a Morgan Stanley report.

The report said the region was entering a "once-in-a-generation industrial investment cycle", driven by geopolitical tensions, technological advances and greater government support for strategic industries.

The investment cycle is expected to lift Asia's investment-to-GDP ratio to a new high of 32 per cent by 2030 and help sustain the region's potential economic growth at around 4.5 per cent, despite slower growth in its working-age population.

Morgan Stanley said the expansion would be broader than the AI-led investment boom attracting much of the market's attention. AI and semiconductor spending, including related energy and industrial investment, is expected to account for only around 20 per cent of the increase in annual capex between 2025 and 2030.

Broader industrial investment is expected to make the largest contribution, accounting for $2.3 trillion, or 47 per cent, of the projected $5 trillion increase in annual investment by 2030.

The report said the cycle was also likely to last longer because its drivers, including supply-chain resilience, energy security, defence requirements and industrial policy, were structural rather than purely cyclical.

"Cycles are shaped by trends, super-cycles are driven by mega-trends," the report said, adding that geopolitics was creating the urgency, technology the opportunity and government policy accelerating investment.

The expansion is also expected to strengthen Asia's position in global trade. Morgan Stanley estimates that the region's share of global exports could increase to around 40 per cent by 2030 from 38 per cent currently, as investment expands manufacturing capacity.

The report noted that non-AI-related exports and capital goods imports had also gained momentum, indicating that the recovery was spreading beyond technology-linked sectors.

However, the pace of investment will depend on how effectively economies execute projects and address constraints such as power supply, labour availability and infrastructure requirements.



International Diary

2026

FED Austrian Electronics Day
26 November
Dornbirn, Austria

HKPCA
2-4 December
Shenzhen, Hong Kong

2027

EIPC Winter Conference
2 & 3 February
Visit TKMS Atlas Elektronik GmbH
Bremen, Germany

IPC APEX EXPO
March
Anaheim Convention Center, California, USA

CPCA
March
Shanghai, China

JPCA
June
Tokyo, Japan

EIPC Summer Conference
8 & 9 June

Electronics Manufacturing & Packaging Symposium (EMPS)
28 June-1 July
ESA/ESTEC Noordwijk, NL

EMS & PCB Forum
June 30-July 1
Dresden, Germany

IPCA
July
New Delhi, India

ECWC17 Electronics Circuit World Convention
18-20 August
Bangkok, Thailand

KPCA
September
Incheon, Korea

EIPC @ FED Conference
15 & 16 September
Mannheim, Germany

TPCA
October
Taipei, Taiwan

EIPC @ Productronica
16-19 November
Munchen, Germany

HKPCA
December
Shenzhen, Hong Kong

2028

EIPC Winter Conference
8 & 9 February
Visit Schmoll Maschinen
Rödermark, Germany