



The European Institute for the PCB Community

# EIPC SPEeDNEWS

*The Weekly On-Line Newsletter*

*Issue 11 – April 2022*

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## NEWS FROM THE EIPC

The Technical snapshot webinar that was scheduled for April 20<sup>th</sup> has been postponed to May 4<sup>th</sup>.

The webinar programme will be announced asap.

Registration is open on [www.eipc.org](http://www.eipc.org)



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## NEWS FROM GERMANY

### Seica at SMT

### May 10-12, Nuremberg, Germany – Booth A4-139

Strambino, April 11<sup>th</sup>, Seica SpA is pleased to announce that visitors to SMT 2022 will be able to see the latest, leading-edge test solutions at their Booth A4-139.

**The new PILOT VX platform on display is the latest addition to Seica's Pilot Next Series and it represents the new gold standard for flying probe test performances.**



The Pilot VX has a multitude of new hardware and software features included, all aimed at addressing the fundamental concerns of electronic board manufacturers looking to optimize their investment. Time is cost, and the new state-of-the-art mechanical performance and motion control enables a reduction of up to 50% in test time. The Pilot VX has 12 multi-function test heads providing the

capability to contact up to 44 points simultaneously, as well as technologically advanced measurement hardware, new microwave-based measurement techniques. Optimized VIVA software management enables the parallelization of different types of tests, saving even more time, and smart analysis capabilities together with algorithms based on the principles of artificial intelligence can automatically optimize the test flow in run-time, while maintaining test coverage targets.

Flexibility is also key: optimizing your investment, in terms of meeting more of your needs, is important. For example, a flexible solution may allow you to meet your production targets with one system instead of two, or you could configure the line to optimize throughput by integrating multiple systems, each performing a different part of the test process in parallel to the others. A vast selection of test performances means that the test process can be tailored to the specific requirements of the product being tested, whether it be a relatively simple bare printed circuit board, a complex wafer or PCB with passive and active embedded components. Seica's flying prober can test fully loaded double-side boards with components that also need to be programmed, LEDs to be tested electrically and optically, flex circuits, and very small and very large boards with very small and very large components.... in short, the *Pilot VX is a flexible, configurable test system with an unrivaled set of technologically advanced tools, able to provide the test solutions required by the huge diversity which characterize today's electronics.*

In order to meet the mechanical challenges of probing the extremely miniaturized circuits in multiple types of electronic products and to measure very small electrical values, high precision is a must. With a positioning precision of +/- 10µm, the Pilot VX is able to probe 20µm pads, measure values such as 0.05pF capacitance or 100 µohm resistance and, with a minimum spot of 200 µm, the integrated laser inspection tool can perform presence/absence checks of even 01005 SMDs.

Going beyond the ability to store the test data, the Pilot VX has the capability to collect and store the data regarding the mechanical pressure applied by the test probes on every point on the board under test, making it available for visual, graphical and statistical analysis. Seica's software gives you complete visibility of the test process and provides full traceability, allowing you to certify the quality of the product and to improve yields by utilizing the analysis of the defects found to diagnose problems in the upstream manufacturing process.

Automation is pervasive in today's factories and in most production lines, creating the need to manage not one system, but rather a series of machines and handling modules, including robots, in a fluid, optimized manner. The Seica Asset Manager (SAM) software suite is a configurable platform that can simply perform basic functions such as the connection of a test system to the factory MES, but it also has the potential to supervise all of the assets in a roboticized line according to the MQTT (Message Queuing Telemetry Transport) Broker IIOT standard, which can then be monitored on a remote PC, tablet or mobile device via the customizable Seica Dashboard Application.

Visitors to Seica's booth at SMT 2022 will also see the **Compact Digital XL Test** system. Equipped with a vacuum-type receiver designed for manual or automated loading/unloading of the UUTs, the Compact Digital system, is a configurable, full-range test solution: from MDA/ICT up to full functional tests of complex digital boards, boundary scan test and on-board programming. Like all of Seica's solutions, it is based on the VIP platform (Viva Integrated Platform) and includes the technologically advanced hardware and software capabilities, in a completely



integrated, user-friendly environment, which provide the high-level test performances required by today's electronics.

Seica's VIVA Next> 64-bit software provides a complete set of utilities and tools specifically designed to easily manage all aspects of test as well as a Test Studio, that allows the user to develop functional test sequences using whatever software is most familiar or preferred (e.g. VIVA VL, VIVA Quicktest, VIVA Flylab, TestStand,

Labview, MS Excel, Python). VIVA NEXT provides intelligent integration with all aspects of the customer's manufacturing processes - data collection, traceability, interaction with MES, repair operations – and all of the Next> series systems have Canavisia's Industrial Monitoring solution on board, with the potential for remote monitoring of current and voltage consumption, mains supply, temperature, light indicators and other parameters useful to indicate correct operation, provide information for predictive maintenance and, in general, to render the systems compatible with today's Industry 4.0 standards

In fact, visitors to booth A4-139 will be able to see, firsthand, Canavisia's Industry 4.0 solutions for the acquisition and digitalization of data coming from machines, factories and buildings with the goal of optimizing processes, maintenance and intelligent energy management on-site, over the web and from the Cloud. The system Dashboard and APP provide a real-time view of the connected resources as well as statistical reporting, and the solutions are compatible with the most widely used protocols and management software, for easy integration into existing infrastructures.

#### **About Seica S.p.A.**

Founded in 1986, Seica S.p.A. is an innovative, high technology company that develops and manufactures leading-edge solutions for the test, selective soldering of electronic boards and modules as well as a complete line of board handling and automation solutions. Seica also provides battery test solutions, automotive electronic board test solutions, infotainment test, as well as electric vehicle inverter and battery charging station test systems. Seica has fully embraced the concept of Industry 4.0, developing solutions to monitor and collect information from machines and industrial plants to enable the optimization of manufacturing processes, maintenance and energy management.

Company headquarters are located in Italy, with direct offices in USA, Germany, China, Mexico and France. [www.seica.com](http://www.seica.com)

#### **About Canavisia**

Canavisia is an Italian company based in Strambino (TO), part of the Seica SpA group, specialized in Energy Management, Industrial Monitoring (Industry 4.0) and Smart

City solutions. Canavisia designs and manufactures products, applications, solutions and services for the acquisition and digitization of data from machines, factories, buildings and cities, allowing the connection, monitoring and control of resources with the goal of optimizing processes, maintenance and intelligent energy management. Canavisia is also the official Italian distributor of Aegis Factory Logix™ Manufacturing Execution System software, able to manage all the logistic and production processes in a lean and cost effective way. All the Canavisia Solutions are compliant with the requirements of the Industry 4.0 incentives program.

[www.canavisia.com](http://www.canavisia.com)



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### NEWS FROM THE UK

## MicroTech 2022

### **NEXT GENERATION OF ELECTRONICS AND PEOPLE 5 KEY QUESTIONS TO BE ADDRESSED**

- Can Hybrid Bonding achieve cost-effective high-density interconnect?
  - Can E-Planes replace High Speed Rail?
  - Can Copper Sintering replace silver?
- How thin can semiconductor wafers be ground?
- How can UK companies win in the global semiconductor market?

Don't miss out on this opportunity to hear the answers to the above questions and many more by registering for MicroTech 2022 below.

Registration for MicroTech 2022:

<https://www.imaps.org.uk/events/microtech-2022-next-generation-of-electronics-and-people/>

A Pre-Conference Training Workshop on Microelectronic Packaging Techniques for Power Electronics (PEP-IT-UP) will also be held on the afternoon of Monday 25 April 2022.

If you have registered to attend MicroTech 2022, you can register for a place at the Training Workshop for free, by booking Ticket PEP-IT-UP-03. However, there are only limited places available and they will be allocated on a first come, first served basis.

Registration for PEP-IT-UP Workshop:

<https://www.imaps.org.uk/events/pep-it-up-training-workshop-microelectronic-packaging-techniques-for-power-electronics-monday-25-april-2022/>



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## ELECTRONICS INDUSTRY NEWS

### ***Shanghai and Kunshan Pandemic Lockdowns Clog Supply Chain Logistics, Exacerbates Component Mismatch in ODMs - TrendForce***

Apr.12 2022

Due to the explosion of the COVID-19 pandemic in China, Shanghai has adopted a rolling lockdown policy since March and Kunshan City, a major production hub for the electronics industry near Shanghai, has also felt the impact. According to TrendForce, limited manpower and logistics and suspended transportation options mean neighboring OEMs and ODMs can only rely on onsite inventory to barely meet the needs of production lines, further exacerbating component mismatches. Concurrently, a short-term surge in finished product shipments and demand for material replenishment after the various lockdowns are lifted may gridlock customs authorities, with delivery delays potentially lasting until the end of April before there is any chance for improvement.

TrendForce further indicates, starting from 4Q21, demand for consumer specification products, which account for the bulk of products sold by MLCC suppliers in Taiwan, Korea and China, weakened as customers continue to adjust their inventories. Although ODMs currently predict the demand for consumer specification MLCC will recover month by month in 2Q22, emergency lockdowns caused by the pandemic are bound to impose delays on logistics. Likewise, OEMs' supply of key direct buy components will also be interrupted due to the Shanghai lockdown. Shortages of CPU, battery module, and panel materials will impact production lines because materials cannot be delivered to relevant factory warehouses, exacerbating ODM component mismatch issues. On the other hand, the focus of downstream branded customers remains on low visibility and weak demand in the 2Q22 end market.

MCLL supplier production centers in China including those located in Tianjin, Suzhou, Wuxi, and Guangdong, have yet to be locked down but inter-provincial logistics and transportation have clearly felt the escalation of inspection and supervision since the end of March, resulting in prolonged transportation timetables. However, the biggest problem for MLCC suppliers at this stage is they cannot deliver materials to Shanghai and Kunshan. There are a number of large ODM plants at these two locations, such as Quanta Shanghai Manufacture City in the Songjiang District of Shanghai and the Compal, Wistron, and Pegatron campuses in Kunshan. At present, ODMs' average inventory level for consumer specification products sits at 3 to 4 weeks, which is sufficient to meet the needs of short-term production. However, stocks of certain high-voltage automotive MLCC of 250V or higher specifications and high-end server MLCC size 0805/1206/1210 items may be in danger of depletion.

Looking to 2Q22, the lockdowns of Shenzhen, Dongguan, and Shanghai that began in March have hobbled China's manufacturing industry and sent it into a period of contraction. In addition, the Russian-Ukrainian war and rising inflation continue to slow demand growth for mainstream consumer electronics, potentially risking recession.

With so many unfavorable factors, ODMs must still observe an easing of component mismatching before further considering MLCC stocking momentum after restrictions are lifted. If the pandemic in China cannot be effectively brought under control in the short term, overall ODM inventories will continue to be maintained at a high level for approximately 1 to 1.5 months to prevent similar sudden lockdowns disrupting operations.

However, TrendForce believes that it will be difficult for MLCC suppliers to surmise the visibility of customers' real demand. Once the purchase order situation reverses, they will be unable to respond quickly with capacity adjustments, thus becoming a primary focus of MLCC manufacturers' risk management in 2Q22.

### *Custer Consulting News*



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### SEMICONDUCTOR INDUSTRY NEWS

#### Intel Invests \$3 Billion in Oregon Fab to Regain Industry Leadership

*By Alan Patterson*

*EE Times.*

Intel has opened a \$3 billion expansion of D1X Mod3, an advanced technology fab in Hillsboro, Oregon; an investment that's aimed at recapturing leadership in semiconductor process technology.

At a ribbon-cutting ceremony, Intel CEO Pat Gelsinger reiterated the company's commitment to U.S. leadership in semiconductor R&D. The largest U.S. chipmaker redubbed the nearly 500-acre campus as Gordon Moore Park at Ronler Acres as a reminder that Moore's Law is alive and kicking. In recent years, there have been concerns that Moore's Law has lost steam.

"Since its founding, Intel has been devoted to relentlessly advancing Moore's Law," Gelsinger said in a statement. "This new factory space will bolster our ability to deliver the accelerated process roadmap required to support our bold IDM 2.0 strategy. Oregon is the longtime heart of our global semiconductor R&D."



*Intel's Gordon Moore Park at Ronler Acres (Source: Intel)*

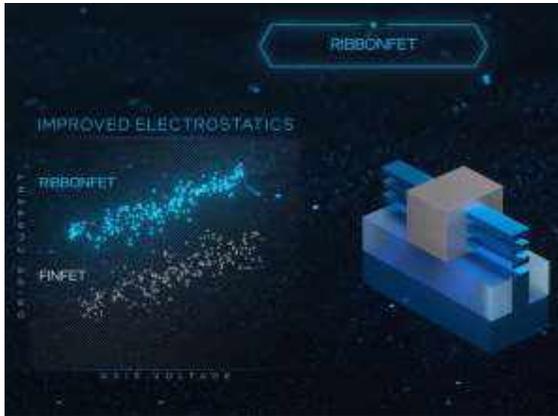
The site is the headquarters of Intel's global Technology Development organization, which is responsible for advancing Moore's Law by creating new transistor architectures, wafer processes, and packaging technologies that underpin the company's product roadmap. The Oregon facility is expected to provide the foundation for applications ranging from PCs to cloud infrastructure to 5G networks. The team has approximately 10,000 employees, primarily based in Hillsboro.

One key challenge the team faces is shrinking the features on a chip to the size of atoms. The Oregon fab is credited with innovations such as high- $k$  metal-gate technology, tri-gate 3D transistors, and strained silicon; all of which have been fundamental to keeping pace with Moore's Law.

"These groundbreaking process innovations all originated right here in Oregon. With the new expansion of our D1X factory, Oregon is well-positioned to deliver the next generation of leading-edge technologies," said Ann Kelleher, general manager of Technology Development at Intel. "Semiconductors are fundamental to U.S. technology leadership, our economy, and supply chain resilience. Intel is the only company in the world with the majority of its process and packaging R&D and high-volume leading-edge semiconductor manufacturing in the U.S."

Last year, Intel announced an ambitious process technology roadmap that's aimed at regaining the lead over rivals Taiwan Semiconductor Manufacturing Company and Samsung. Intel expects to accelerate the pace of innovation with an annual cadence of improvements, leveraging technologies for new products through 2025 and beyond.

Those innovations include Intel's [gate-all-around RibbonFET](#), a new 3D transistor architecture; PowerVia, a backside power delivery method; and [High NA EUV lithography](#).



With the \$3 billion investment to expand D1X, Intel engineers will have an additional 270,000 square feet of clean room space to develop next-generation silicon process technologies. Intel will transfer technology from Hillsboro to its global manufacturing sites.

Intel's operations in Oregon are its largest concentration of facilities and talent in the world, with close to 22,000 employees across four campuses in Hillsboro — 20 miles west of Portland. The expansion brings Intel's total investment in Oregon to more than \$52 billion.

The company aims to win some of the [\\$52 billion in subsidies](#) from the U.S. government to revive domestic chip manufacturing. Once the world's largest chipmaking nation, the U.S. currently accounts for about 12 percent of global production. The decline of the U.S. semiconductor industry is often considered a national security vulnerability.

Intel said that with its employees, a vast network of local contractors and suppliers, capital investments, and other downstream impacts, the company's total annual contribution is more than 105,000 jobs, more than \$10 billion in labour income, and \$19 billion in gross domestic product.



## Issue 11 - April 2022

### NEWS FROM THE TPCA

***Chinese mainland printed circuit board manufacturers may face increased transportation costs, some shipment delays, and foundries are also affected by logistics resulting from Kunshan closure***

April 12, 2022

TPCA

Chinese mainland the severe epidemic situation, Kunshan, a major Taiwanese business town near Shanghai, extended the closure for 4 days to April 12, and required enterprises to be completely closed for management. The legal person believes that printed circuit board manufacturers may face increased transportation costs, some shipment delays, and foundries are also affected by logistics, but the overall impact on the production side of Taiwan factories is not large.

Kunshan upgraded epidemic prevention measures on the evening of April 1, announced the city's multiple rounds of nucleic acid testing, required enterprises to take turns to reduce production, work from home, and control foreign traffic; on the evening of the 5th, it was announced that from the 6th to the 8th, it was further upgraded the epidemic prevention and control measures, and enterprises must implement fully closed management, and then extended for another 4 days to April 12.

Kunshan is a printed circuit board (PCB), electronic foundry, panel and other components production centre, many Taiwan businessmen settled in the local, the outside world is worried that the sealing control may affect the shipment of 3C products, and even impact the global electronic supply chain.

According to the analysis of legal persons, pcb manufacturers located in Kunshan are not only affected by production, but because logistics are also controlled, they will slightly increase transportation costs and cause some shipment delays, but it is estimated that the shutdown is still a short-term operational impact and has little impact on long-term operations. According to the legal person's estimates, Xinxing mainly produces PCBs and HDI's subsidiary Kunshan Dingxin, and Xinxing Tongtai, a

subsidiary that mainly produces flexible boards, account for about 20% to 25% of the production capacity; Taiwan Optoelectronics Kunshan's production capacity accounts for about 30% to 40%; Nandian Kunshan's production capacity accounts for about 40%, mainly producing PCB and BT carrier boards.

The legal person pointed out that the production line of the electronics assembly plant Pegatron, Wistron and Compal in Kunshan is operating normally, but the logistics are affected. Overall, Kunshan sealing and control has little impact on the production end of Taiwan factories, but it is still necessary to pay attention to the negative impact of lockdown on logistics and demand.

Copper foil substrate and environmental protection substrate factory Taiguang Photoelectric announced today that its subsidiary, Taiwan Optoelectronic Materials (Kunshan) Co., Ltd., in cooperation with the local government's epidemic prevention work against COVID-19 (2019 coronavirus disease), is tentatively extended to April 12, and will resume normal operations after the local government's notification.

Other Taiwan factories that have announced the suspension of work at the Kunshan subsidiary include AUO, Xinxing, Baicheng, Lantian, Huaifu, Anli-KY, Shanghua and so on.

***Ming Zhenghong electronic circuit board orders are full, and the output value is expected to reach 135 million yuan in the first quarter, an increase of 25% year-on-year***

April 12, 2022

TPCA

Yiyang City fully implements the strategic positioning and mission task of "three highs and four new", and encourages enterprises to increase investment in research and development with the "product innovation strong foundation project" as the traction. At present, Ming Zhenghong electronic circuit board orders are full, and the output value is expected to reach 135 million yuan in the first quarter, an increase of 25% year-on-year.

It is worth mentioning that the company's independent design and development of "direct copper ceramic 5G circuit board" is shortlisted in the 2021 Hunan Province industry and information technology key new product recommendation catalog of new products, through the breakthrough of direct copper ceramic substrate manufacturing process, 5G circuit board mixing and other key common technologies, so that the new product has high reliability, high density, high heat dissipation and other characteristics, can effectively solve the signal transmission distortion problem of high-frequency high-speed printed circuit board, the technology reached the national leading level.

At present, the product has been applied in the fields of 5G communication, network server, aerospace, automatic driving and other optical communications. Xu Zhengwu, technical leader of Yiyang Mingzhenghong Electronics Co., Ltd., said: "The

characteristics of our product are that the copper thickness uniformity of the wire is consistent, which can be achieved within 5 microns; the second is that its width uniformity is consistent, and it can be within plus or minus 25 microns, and the third is that the consistency of its wires and below is better, at present, the speed of our products can be 400G.”

According to the data, Yiyang Mingzhenghong Electronics Co., Ltd. is a subsidiary of Shenzhen Mingzhenghong Electronics Co., Ltd., established in 2013, focusing on the research and development and production of double-sided circuit boards, with 1 national invention patent, and was identified as a national high-tech enterprise in 2020.

Shenzhen MingZhenghong Electronics was established in 2003, the company passed UL, CUL, CQC, TS16949, ISO14001 certification. It currently has three plants. The first factory is located in the Shenzhen Special Economic Zone adjacent to Hong Kong, and is a professional double-sided/multi-layer circuit board manufacturer. The factory is mainly small and medium-sized batches, and the product coverage areas include automotive electronics, industrial control, security communications, medical, LED backlight power supply, etc. The surface treatment of the product includes chemical gold/ electrical (thick) gold, gold finger, (lead-free) spray tin, immersion tin, silver, OSP, carbon oil, which can meet the various needs of customers. (Hunan Radio “Provincial News Network”, the official website of the enterprise, Yongzhou released)

***PCB ethnic group Q1 revenue shows the furnace, the annual increase in the revenue of the board group to 3-40% of the level of the best performance***

April 12, 2022

TPCA

Printed circuit board PCB ethnic group Q1 revenue shows the furnace, the annual increase in the revenue of the board group to 3-40% of the level of the best performance, benefiting from the new machine listing or production capacity and other benefits, Q1 revenue performance is eye-catching, but since April, Shanghai, Kunshan and other places of the lockdown continued, adding variables to the operation of Q2.

Q1 PCB performance high Carrier board hit a high in the same period PCB manufacturers Q1 performance is good, some manufacturers are benefiting from Apple’s new mobile phones, laptops, tablets of the tide of goods, to promote the operation of stronger, some manufacturers have new production capacity to open, contribute revenue momentum, and the carrier board group continues to maintain strong performance, revenue hit a new high in the same

period, of which Xinxing first quarter annual increase of more than 40% Jingshuo's annual increase is nearly 39%, and Nandian's annual increase is 34%.

In addition to the board factory, among other PCB groups, the Q1 revenue of the parts manufacturer Taibiaoke increased by nearly 58% year-on-year, mainly benefiting from the continuous release of mini LED products; the increase of 55% in the Q1 year of Shengmao, which was benefited from the new customers of power supply to join the note; the Annual Increase of Primus Q1 revenue was 44%, mainly due to the good demand for industrial computers and servers: Jingxing Q1 revenue increased by 43% year-on-year, and the benefits of the automotive and industrial control markets heated up.

Kunshan lockdown and then extend Q2 performance pressure

And the recent Kunshan lockdown incident, Kunshan is one of the important pcb production towns for Taiwan businessmen, the previous lockdown was originally extended to April 8, but now it has been further extended to the 12<sup>th</sup>, some manufacturers directly announced the suspension of work, some manufacturers are closed-loop production, but even if production is maintained, Shipments or logistics will also be affected, impacting operations.

Inventory of PCB manufacturers with factories in Kunshan, including Baicheng, Taiguang, Xinxing, Nandian, Yingying, Nanzi Electric, Taijun, Jingguo, Jingchengke, yadian.

In terms of the IC carrier board group with high market attention, Xinxing Group has two subsidiaries in Kunshan Dingxin and Xinxing Tongtai respectively, Xinxing has announced that the suspension of work between the two subsidiaries in conjunction with government policies has been extended to April 12, and the two companies accounted for 13% of the consolidated revenue in the first quarter, and Nandian said that Kunshan Plant is closed-loop management, maintaining production, and the legal person estimates that Nandian Kunshan Plant accounts for about 40% of the revenue ratio.

Supply chain worried about logistics for Q2 variables

However, even if there is no production base in Kunshan, it will also worry about the wave of closed management in Shanghai, Kunshan and other places since April, resulting in smooth logistics and customers' willingness to prepare inventory, so they are conservative about the second quarter.

PCB pad manufacturer Ju Oak said that Chinese mainland the rapid heating up of the epidemic, the PCB industry chain production base due to the impact of the epidemic in Kunshan, China, temporarily suspended, short-term revenue will be affected; Yadian said that customers due to the epidemic prevention policy and shutdown, affecting customer inventory consumption and pulling kinetic energy, and epidemic prevention control involves important transshipment hubs, will also affect the shipment kinetic energy, Kunshan factory is equipped with dormitories, can arrange

staff accommodation production, maintain urgent and necessary order capacity.  
(News source: Money DJ)



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## International Diary

### 2022

#### **17<sup>th</sup> EIPC Technical Snapshot Webinar**

Registrations via [www.eipc.org](http://www.eipc.org)

4 May

#### **EIPC @ SMT Connect**

10-12 May

Nuremberg, Germany

#### **18<sup>th</sup> EIPC Technical Snapshot Webinar**

Registrations via [www.eipc.org](http://www.eipc.org)

May

#### **EIPC @ CPCA**

18-20 May

Shanghai, China

#### **EIPC Summer Conference**

**Visit Ericsson Product Development Test Centre**

14 & 15 June

Örebro, Sweden

#### **19<sup>th</sup> EIPC Technical Snapshot Webinar**

Registrations via [www.eipc.org](http://www.eipc.org)

September

#### **KPCA Korea**

21-23 September

Korea

**EIPC @ FED Conference**

29-30 September  
Bamberg, Germany

**20<sup>th</sup> EIPC Technical Snapshot Webinar**

Registrations via [www.eipc.org](http://www.eipc.org)  
October

**TPCA Taiwan**

26-28 October  
Taiwan

**EIPC @ Electronica**

15-18 November  
Munich, Germany