



The European Institute for the PCB Community

# EIPC SPEeDNEWS

*The Weekly On-Line Newsletter*

*Issue 10 – March 2023*

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## NEWS FROM THE EIPC

### **Announcement**

EIPC Summer Conference Munich, Germany  
June 15 & 16, 2023

“Reading makes a full man; conference a ready man; and writing an exact man”.  
Essays Francis Bacon, 1625

One thing is for sure, an EIPC Conference covers all of those three requirements, so delegates invariably leave us having read, conferred and written to completion. Not to say dined as well!

Taking place in Munich on 15th & 16th June 2023, the highlight will be a visit to the World of BMW and their Museum at Olympia park, just outside the city on the 15th. But over those two days we plan to cover much other territory, as may be seen from our ‘wish list’ of topics that we would like to see covered. There is scope for everyone, so would you please be kind enough to allow us to share your knowledge and send us a summary as soon as you may.

Please may we have your abstract submission no later than March 31<sup>st</sup>.

You can download the Call for Papers and abstract submission form on [www.eipc.org](http://www.eipc.org)

Registration for the conference is now open: [www.eipc.org](http://www.eipc.org)



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Call for papers

EIPC Summer Conference Munich, Germany

June 15 & 16, 2023



**Bonus Programme: Visit to BMW World on Thursday June 15**

Presentations on the following topics can be included in the conference programme:

**Keynote / Trends**

- Business Outlook: Global Electronics Industry
- Automotive customer requirements for PCB supply chain
- Automotive, E-mobility, Energy, IoT, Medical Industrial Electronics, Aerospace, Avionics-G5
- Supply chain risk management

**Roadmapping for 2023 and beyond**

- Roadmap by market segments
- Technology Guidance through market needs
- Adapting processes, materials, chemistry, equipment to future technology needs
- Strategic Partnership and Planning for success through Networking

**Environmental responsibility**

- Sustainability development --Circular economy solutions through the whole supply chain- carbon footprint
- Green manufacturing

**New Technologies: Success through Evolution- or Disruptive Technologies?:**

- Process technology development SAP and full Additive Process
- Photonics: optical solutions in component and board level
- Laminate based Semiconductor Packaging
- Embedded technology: Passives, actives, Power modules
- Nanotechnology and Printed electronics: 3D Electronics (conductive pattern/dielectric layers)
- Material Technology: Laminate technologies - Coating technologies
- Ni free surface finishes
- New technology: Innovations and Invention

**Equipment and process evolution to meet Technology Challenges and Smart manufacturing**

- Equipment and process capabilities improving PCB conductor features management and process tolerances
- Etching and plating technology for improved conductor control and copper thickness tolerances
- Industry 4.0, Automation and AI in PCB manufacturing
- Imaging and Printing Technology
- Laser, Mechanical drilling

- ML-Pressing for high frequency product, improving variation

- Thermal PCB solutions, Metal Core PCBs

**Materials, Reliability and Traceability requirements by Application**

- Material solution for Automotive industry
- Responsibility and Standards for Product Reliability and Safety
- In-house process control and conformation Testing
- Material and finished product Safety and Testing
- Advanced supply chain and Third party Testing

**Measurement methodology**

- Copper: thickness and roughness -How to measure and verify copper roughness against new requirements
- Standardization and methodology
- Measurement automation - In production controls
- High frequency measurement and automation
- Tools for Testing and ensuring product safety and reliability



Please visit  
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for the latest news

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### NEWS FROM AUSTRIA

#### **AT&S achieves climate protection milestone with emissions targets.**

Major success for AT&S in the area of sustainability: the international climate protection alliance Science Based Targets Initiative (SBTi) has announced the recognition of AT&S's climate protection targets in accordance with the Paris Climate Agreement. The global high-tech company based in Styria sees the confirmation of its energy strategy as a high recognition of the work done so far and a strong incentive for future implementation. The ambitious goals that AT&S has set itself are now officially in line with the 1.5 degree target and are thus an important step towards securing a future worth living for future generations.

In the financial year 2021/22 AT&S voluntarily committed its climate protection targets to the strict guidelines of the Science Based Targets Initiative (SBTi). In the following year, specific emission reduction targets were submitted and subjected to a diligent review by the SBTi. The SBTi has now concluded that AT&S's climate targets meet the strict criteria of the Climate Protection Alliance, which means that it is considered scientifically sound that AT&S's energy strategy is based on the latest findings of climate research.

The Science Based Targets Initiative is an international climate protection alliance consisting of the United Nations Global Compact (UNGC), Carbon Disclosure Project (CDP), World Resources Institute (WIR) and WWF, which promotes ambitious climate protection measures in the private sector. Being recognised by this alliance demonstrates a company's strong commitment to overall social responsibility and to guaranteeing customers ambitious sustainability standards.

Under the climate targets that have now been confirmed, AT&S pledges to reduce greenhouse gas emissions by 38% by 2030 compared with 2021, both from direct emissions within the company and from indirect emissions from

energy suppliers. In addition, emissions generated by purchased goods, services and capital goods are reduced by 48 % per euro of value added over the same period.

“With the recognition of our emissions targets by the SBTi, AT&S can announce the achievement of a milestone in the company’s sustainability history,” Marina Hornasek-Metzl, Senior Director ESG at AT&S, is pleased to say and emphasises: “We are aware that this is only the first step. We will continue to drive climate protection in all areas as part of our sustainable growth strategy.”

In order to achieve the ambitious targets by financial year 2030/31, AT&S will optimise energy management for processes and production facilities in its plants and increase the proportion of green energy in purchasing step by step. In order to reduce emissions in the supply chain, AT&S will rely on even stronger cooperation with its suppliers in the future.

The significant reduction of emissions also brings clear economic benefits, as the achievement of these targets is accompanied by savings in energy consumption. Furthermore, the company’s ambitious climate strategy supports the goals of its customers, making their emission reduction targets easier to achieve, which in turn reinforces trust and strengthens the customer relationship.

“As a globally active company, we take our responsibility in the area of climate protection very seriously. To underline this, we have committed ourselves to the targets of the Science Based Targets Initiative. The confirmation of our energy strategy is a significant step on the way to becoming a leading high-tech group also in the area of sustainability,” says CEO Andreas Gerstenmayer. AT & S Austria Technologie & Systemtechnik Aktiengesellschaft – Advanced Technologies & Solutions

AT&S is a globally leading manufacturer of high-end printed circuit boards and IC substrates. AT&S industrialises leading-edge technologies for its core business segments Mobile Devices & Substrates, Automotive, Industrial and Medical. AT&S has a global presence with production sites in Austria (Leoben, Fehring) and plants in India (Nanjangud), China (Shanghai, Chongqing) and Korea (Ansan near Seoul). A new high-end production site for IC substrates is currently being established in Kulim, Malaysia. The company employs roughly 15,000 people.



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### NEWS FROM ISRAEL

#### **Eltek Announces Filing of 2022 Annual Report**

Eltek Ltd. has announced that it filed its annual report, containing audited consolidated financial statements for the year ended December 31, 2022, with the U.S. Securities and Exchange Commission.

The annual report is available on the Company's website at [www.nisteceltek.com](http://www.nisteceltek.com). Shareholders may receive a hard copy of the annual report free of charge upon request.

#### About Eltek

Eltek – “Innovation Across the Board”, is a global manufacturer and supplier of technologically advanced solutions in the field of printed circuit boards (PCBs), and is an Israeli leading company in this industry. PCBs are the core circuitry of most electronic devices. Eltek specializes in the manufacture and supply of complex and high quality PCBs, HDI, multilayered and flex-rigid boards for the high-end market. Eltek is ITAR compliant and has AS-9100 and NADCAP Electronics certifications. Its customers include leading companies in the defence, aerospace and medical industries in Israel, the United States, Europe and Asia.

Eltek was founded in 1970. The Company's headquarters, R&D, production and marketing center are located in Israel. Eltek also operates through its subsidiary in North America and by agents and distributors in Europe, India, South Africa and South America.



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### NEWS FROM THE USA

**On 27<sup>th</sup> March the U.S. President invoked the Defence Production Act to spend \$50 million on domestic and Canadian production of printed circuit boards, citing the technology's importance to national defence.**

WASHINGTON, March 27 (Reuters) - U.S. President Joe Biden on Monday invoked the Defense Production Act to spend \$50 million on domestic and Canadian production of printed circuit boards, citing the technology's importance to national defence. Printed circuit boards are incorporated into missiles and radars, as well as electronics used for energy and healthcare. Without presidential action under the act, "United States industry cannot reasonably be expected to provide the capability for the needed industrial resource, material, or critical technology item in a timely manner," Biden wrote in the memo.

"I find that action to expand the domestic production capability for printed circuit boards and advanced packaging is necessary to avert an industrial resource or critical technology item shortfall that would severely impair national defence capability," Biden said.

The move would speed up contracts, said Franklin Turner, a government contracts lawyer at McCarter & English, "by streamlining and prioritizing the procurement processes for these critical technologies, which are used in a variety of defence theatres around the world, including the current conflict in Ukraine."

Industry groups had called for such a move by Washington last year, saying there was not enough domestic production needed to support the U.S. electronics manufacturing industry.



The Defence Production Act ruling also calls for more “advanced packaging” that allows multiple devices to be packaged and mounted on a single electronic device shrinking them and making power use more efficient.

Reporting by Katharine Jackson, Ismail Shakil and Mike Stone; Editing by Doina Chiacu, Chizu Nomiya and David Gregorio

### **PCBAA Applauds Presidential Action to Invest In Critical American Microelectronics**

The recent partnership announced by the U.S. and Canada is a welcome acknowledgement of the urgent need to support the American printed circuit board industry. The Presidential determination of printed circuit boards as essential to national defence under section 303 of the Defence Production Act is welcome news, and achieves a 2023 goal of the Printed Circuit Board Association of America (PCBAA).

The \$50 million identified is a down-payment on what must be a larger and sustained effort by the U.S. government to rebuild this critical manufacturing sector. The American printed circuit board industry was decimated by offshoring over the past 20 years, dropping from almost 30 percent of the world’s supply to only 4 percent today. The U.S. depends on other nations — primarily in Asia, and more than half from China.

“We are eager to work with the Administration to make the best use of this and advocate for subsequent funding for this long-overlooked industry”, said Travis Kelly, Chairman of the Printed Circuit Board Association of America and President and CEO of the Isola Group. “The costs of creating new facilities or upgrading existing printed circuit board facilities can run into hundreds of millions. Just as legislation and policies were created to support semiconductors, the U.S. government needs to invest in our nation’s future by providing support for printed circuit boards.”

### **Rogers Corporation Welcomes Jessica Morton as New Vice President, General Counsel and Corporate Secretary**

Rogers Corporation (NYSE:ROG) (“Rogers”), announced that Jessica Morton has joined the company as Vice President, General Counsel and Corporate Secretary.

Jessica joins Rogers from FMC Corporation, where she provided leadership for complex legal matters within areas including M&A and corporate strategy, securities law and SEC periodic reporting, and corporate governance, among

others. Prior to FMC, Jessica provided global commercial counsel to two key businesses at The Dow Chemical Company – Performance Monomers and Plastics Additives.

In her role at Rogers, she will drive strategic and tactical performance across the organization in key areas including legal affairs and governance as well as business ethics and compliance.

“We are pleased to welcome Jessica to Rogers and look forward to benefitting from her legal expertise in a wide breadth of global corporate matters,” said Colin Gouveia, Rogers’ President and Chief Executive Officer. “Her leadership navigating complex legal requirements related to M&A, securities, corporate governance and more will no doubt contribute to Rogers’ success and our culture of achieving results the right way.”

“I’m honored and excited to join Rogers at a pivotal moment in the company’s history and to collaborate with Colin and his team in executing the strategic plan for Rogers’ next chapter,” said Jessica. “I’ve been fortunate to have worked for innovative companies with strong compliance cultures and look forward to applying my experience and skills in my role as Rogers’ General Counsel.”

#### About Rogers Corporation

Rogers Corporation (NYSE:ROG) is a global leader in engineered materials to power, protect and connect our world. Rogers delivers innovative solutions to help our customers solve their toughest material challenges. Rogers’ advanced electronic and elastomeric materials are used in applications for EV/HEV, automotive safety and radar systems, mobile devices, renewable energy, wireless infrastructure, energy-efficient motor drives, industrial equipment and more. Headquartered in Chandler, Arizona, Rogers operates manufacturing facilities in the United States, Asia and Europe, with sales offices worldwide.





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### NEWS FROM TAIWAN

#### **Taiwan PCB makers moving production to Southeast Asia**

Taiwan-based printed circuit board (PCB) makers have expedited transferring manufacturing away from China, with several establishing new plants or extending current lines in Southeast Asia, particularly Thailand, Malaysia, and Vietnam.

Industry insiders pointed out that PCBs do not garner the same welcome as semiconductors, due to wastewater issues and because the PCB industry consumes large quantities of energy and water.

##### **Thailand**

According to Woranath Khemasiri, secretary general of Southeast Asia and India Business Group at PricewaterhouseCoopers (PwC), Thailand has continued to improve its PCB industry manufacturing value chain by providing investment incentives, such as lower manufacturing costs and stable water supply.

Taiwan-based IC substrate leader Unimicron is expected to invest THB1.26 billion (US\$37.01 million) to establish a subsidiary in Thailand as part of a long-term investment. Other Taiwanese PCB supply chain players expanding in Thailand include Compeq Manufacturing (\$42 million), Dynamic Holding (up to \$300 million), WUS Printed Circuit (\$280 million), Taiwan Union Technology, ITEQ, Taiflex Scientific, and Apex International.

Supply chain players pointed out that Thailand is actively seeking overseas investment. Thailand has also opened to immigrant workers from neighbouring countries such as Myanmar. Once the production facilities are established, the biggest challenges will be factory and supply chain material management.

At the end of 2022, the Taiwan Printed Circuit Association (TPCA) held an investment study in Thailand, which mainly focused on the Eastern Economic Corridor (EEC), which includes Chachoengsao, Chonburi, and Rayong. The TPCA noted that the local supply chain still needs work and the capacity of wastewater plants has yet to be confirmed. In recent years, under the development of ESG sustainability, wastewater discharge standards have increased in Thailand.

### **Malaysia**

Bismaleimide triazine (BT) substrate maker Kinsus Interconnect Technology(?) and PCB maker Global Brands Manufacture (GBM) are expanding their capacity in Malaysia.

Malaysia plays a critical role in the global semiconductor supply chain, according to industry sources, pointing out that nearly 13% of packaging and testing and 7% of semiconductor trade globally passes through Malaysian factories.

More than 50 multinational semiconductor companies have established packaging and testing facilities in Malaysia, including Micron Technology, STMicroelectronics, Infineon, Texas Instruments (TI), and ASE Group. Several International substrate makers, such as AT&S (€1.8 billion) and TTM Technologies (\$120 million) are also expanding local investments.

### **Vietnam**

PCB makers Tripod Technology and Taiwan PCB Techvest (TPT) are both investing in Vietnam. Tripod bought FICT and is looking for a new location (HN).

Industry sources pointed out that Tripod acquired a Japan-based PCB factory in southern Vietnam as part of its new southern layout. The equity transfer is expected to finalize in the near future.

TPT has invested US\$10 million to build a factory in northern Vietnam, which is expected to finish construction in 2023. The factory will focus on notebook boards and photovoltaic panel production and is expected to open new production capacity in 2024.

However, industry insiders believe there is a higher risk of anti-Chinese sentiment in Vietnam. Sources say it is worth watching which Taiwanese companies set up in Vietnam.

At present, several major US manufacturers are manufacturing key products in Vietnam. Apple is manufacturing iPads and AirPods in northern Vietnam. Microsoft began shipping Xbox gaming consoles from Ho Chi Minh City in 2022.

24 March 2023

Janet Kang, Taipei; Eifeh Strom, DIGITIMES Asia

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NEWS FROM THE IPC

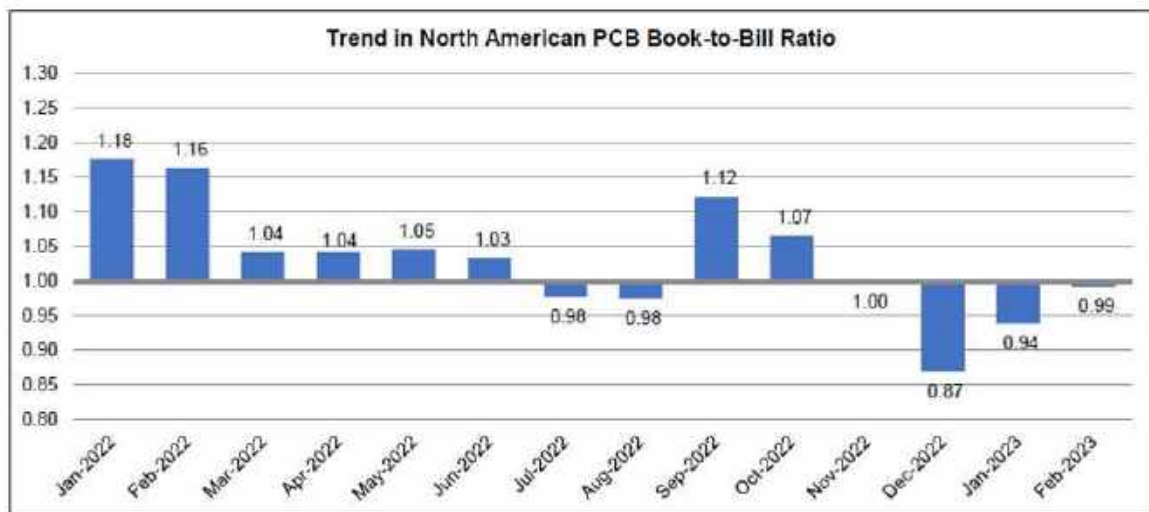
**North American PCB Industry Sales Up 5.6 Percent in February as PCB bookings in February were up 1.5 percent compared to the same month last year - IPC**

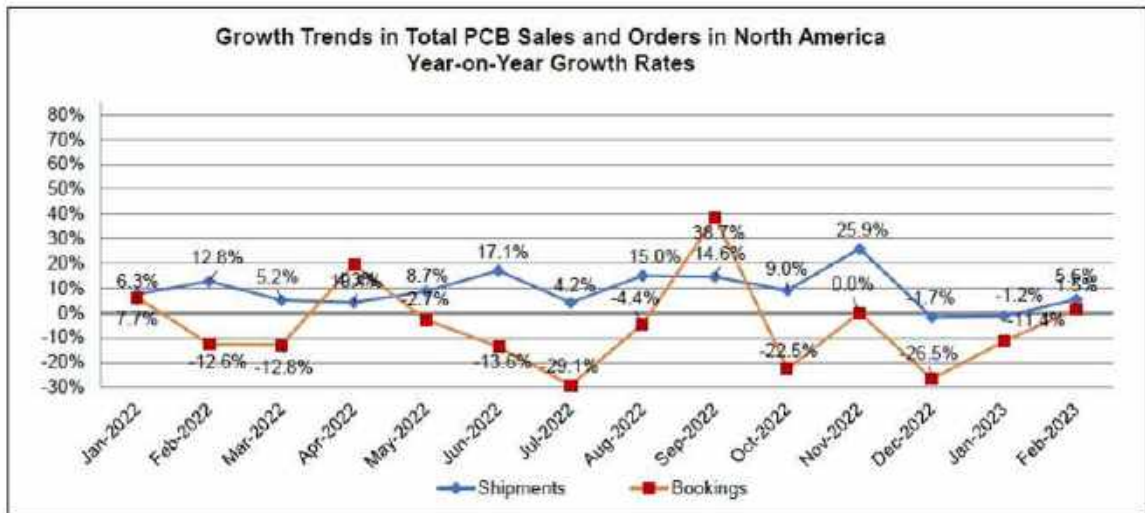
IPC have announced the February 2023 findings from its North American Printed Circuit Board (PCB) Statistical Program. The book-to-bill ratio stands at 0.99.

Total North American PCB shipments in February 2023 were up 5.6 percent compared to the same month last year. Compared to the preceding month, February shipments were up 16.4 percent.

PCB bookings in February were up 1.5 percent compared to the same month last year. February bookings were up 7.8 percent compared to the preceding month.

“Shipments were strong in February and are tracking above 2021 levels for the year,” said Shawn DuBravac, IPC’s chief economist. “However, despite a strong February, order volume remains down through the first two months.”





**Detailed Data Available**

Companies that participate in IPC’s North American PCB Statistical Program have access to detailed findings on rigid PCB and flexible circuit sales and orders, including separate rigid and flex book-to-bill ratios, growth trends by product types and company size tiers, demand for prototypes, sales growth to military and medical markets, and other timely data.

**Interpreting the Data**

The book-to-bill ratios are calculated by dividing the value of orders booked over the past three months by the value of sales billed during the same period from companies in IPC’s survey sample. A ratio of more than 1.00 suggests that current demand is ahead of supply, which is a positive indicator for sales growth over the next three to twelve months. A ratio of less than 1.00 indicates the reverse.

Year-on-year and year-to-date growth rates provide the most meaningful view of industry growth. Month-to-month comparisons should be made with caution as they reflect seasonal effects and short-term volatility. Because bookings tend to be more volatile than shipments, changes in the book-to-bill ratios from month to month might not be significant unless a trend of more than three consecutive months is apparent. It is also important to consider changes in both bookings and shipments to understand what is driving changes in the book-to-bill ratio.

IPC’s monthly PCB industry statistics are based on data provided by a representative sample of both rigid PCB and flexible circuit manufacturers selling in the USA and Canada. IPC publishes the PCB book-to-bill ratio by the end of each month.

## Despite Growing Economic Uncertainties, the Electronics Manufacturing Industry Remains Upbeat

IPC issues March Global Sentiment of the Electronics Supply Chain report

Per IPC's [March 2023 Global Sentiment of the Electronics Supply Chain Report](#), the last month delivered another month of stable industry sentiment: industry demand appears to remain intact, production holds steady and some labor challenges may be receding. Though overall sentiment is upbeat, roughly 58 percent of sentiment survey respondents expect to raise prices in 2023 with an average of an 8 percent increase.

Among other data, survey results show:

- Labour costs, orders, customer inventory, backlogs, and ease of recruitment is expected to remain relatively stable.
- Backlogs are rising more so in North America when compared to both Europe and APAC.
  - Nearly two-fifths (38 percent) of firms in North America indicate backlogs are on the rise, while a significantly lower 8 percent of European firms and 14 percent of those in APAC are experiencing a current increase.
- Material costs are declining at a faster pace among manufacturers in Europe vs. those in North America.
  - While 11 percent of firms in Europe indicate material costs are currently declining, 0 percent of firms in North America are presently reporting a decrease.
- The majority of manufacturers indicate less than 10 percent of 2022 revenue growth was attributable to pricing impacts, which holds true for manufactures in North America, Europe, and APAC.

For the report, IPC surveyed hundreds of companies from around the world, including a wide range of company sizes representing the full electronics manufacturing value chain.

[View full report.](#)

## IPC Welcomes U.S. Presidential Determination Prioritizing Domestic Development of Printed Circuit Boards and IC Substrates

IPC welcomes the action of U.S. President Joe Biden today in issuing a “presidential determination” that prioritizes the domestic development of printed circuit boards (PCBs) and advanced packaging, including IC substrates, under Title III of the Defence Production Act (DPA).

IPC, along with partners including the U.S. Partnership for Assured Electronics (USPAE) and the PCB Association of America (PCBAA), has been calling on President Biden to address urgent industrial base vulnerabilities and deliver on the promise of the CHIPS Act through a “silicon-to-systems” innovation strategy, which today’s determination will help achieve.

IPC President and CEO John Mitchell said, “Increasing domestic chips production without bolstering the manufacture of cutting-edge PCBs and IC substrates risks lengthening the semiconductor supply chain, because many of the chips made in California or Ohio will still have to be sent outside of the United States for packaging and assembly into finished products.

“The erosion of U.S. PCB capabilities and capacity has compromised national and economic security, as the U.S. share of global PCB production has fallen from 30% to 4%, making the nation heavily reliant on a global supply chain that is itself in turmoil,” Mitchell added. “Today’s presidential determination is a key step toward moving beyond a silicon-only mindset and rebuilding the wider U.S. electronics manufacturing industry. We look forward to working with Congress and the Executive Branch to ensure this effort is fully funded and implemented.”

On Friday, President Biden announced an additional \$50 million in Defense Production Act funding for U.S. and Canadian companies to invest in advanced packaging for semiconductors and printed circuit boards. On Feb. 23, Commerce Secretary Gina Raimondo said the U.S. will develop multiple high-volume advanced packaging facilities and become a global leader in chip packaging technologies.

The Biden administration’s year-long assessment of the ICT supply chain, released in February 2022, highlighted the importance of PCB fabrication and assembly in electronics manufacturing and recommended that government programs like Title III be used to bolster the strength of U.S. PCB manufacturers. The issuance of this presidential determination is a crucial first step towards securing the domestic supply of these critical electronic components.

IPC looks forward to continuing to work with the Biden administration, the U.S. Congress, and industry partners to support long-term policy and funding

to rebuild the entire ecosystem that sustains innovative, resilient, and secure electronics manufacturing.

## **IPC Applauds New U.S.-Canada Partnership to Strengthen Advanced Packaging and Printed Circuit Board Manufacturing in North America**

The following is a statement by John W. Mitchell, president and CEO of IPC, the global electronics manufacturing association, on the joint statement today of U.S. President Joe Biden and Canadian Prime Minister Justin Trudeau:

“On behalf of electronics manufacturers, IPC applauds the just-announced partnership between the United States and Canada ‘to strengthen advanced packaging for semiconductors and printed circuit boards in North America,’ including an additional USD \$50 million in U.S. Defense Production Act funding for those purposes.

“In order to achieve their shared goals, the U.S. and Canada must invest in and support the growth of the electronics manufacturing ecosystem, including printed circuit boards (PCBs), IC substrates, and semiconductor assembly. Neglecting a “silicon-to-systems” approach would undercut the promise of the CHIPS Act and the region’s long-term leadership in innovation.

“Today’s announcement represents another meaningful step toward rebuilding a North American electronics manufacturing industry that was once the envy of the world.”

This is the third time in a month that the U.S. Government has called for a “more than just chips” approach to implementing the CHIPS Act. On Feb. 23, Commerce Secretary Gina Raimondo said the government is working to establish at least two new, large-scale clusters of leading-edge semiconductor fabs, each with a robust supplier ecosystem, cutting-edge R&D, and workforce training. Significantly, she said the U.S. will develop multiple high-volume “advanced packaging” facilities and become a global leader in chip packaging technologies.

The week before, on a Freakonomics podcast, Raimondo confirmed that some CHIPS Act funding will go to “smaller firms,” including “circuit-board companies.”





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## International Diary

### 2023

#### **21<sup>st</sup> EIPC Technical Snapshot Webinar**

19 April

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

#### **EIPC @ SMTconnect**

9-11 May

Nuremberg, Germany

#### **EIPC Summer Conference**

Visit BMW World

15 & 16 June

Munich, Germany

#### **22<sup>nd</sup> EIPC Technical Snapshot Webinar**

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

September

#### **23<sup>rd</sup> EIPC Technical Snapshot Webinar**

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

October

#### **EIPC @ Productronica 2023**

14-17 November

München, Germany

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

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

December