



The European Institute for the PCB Community

EIPC SPEeDNEWS

*The Weekly On-Line Newsletter from the European Institute of Printed Circuits.
Issue 17 – May 2021*

NEWS FROM THE EIPC

Here is the link to the review of our last Webinar held on 20th May, written by the inestimable Pete Starkey of PCB007.

<http://pcb.iconnect007.com/index.php/article/127678/eipc-technical-snapshot-webinar-aspects-of-additive-manufacturing/127681/?skin=pcb>

Our thanks to the publishers.



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NEWS FROM AUSTRIA

World premiere at AT&S – TechDays for the first time in the Virtual Showroom

More than 200 participants, fantastic feedback and exciting and in some cases exclusive news and information for AT&S customers. “Our first virtual TechDays Europe was a huge success,” says Peter Schneider, CSO of AT&S AG. On April 28 and 29, 2021, the Styrian technology company AT&S hosted its annual TechDays – for the first time in the company’s history only virtually and invited all of its customers and partners to the Virtual Showroom (virtual.ats.net).

Exciting lectures, presentations and Q&A sessions demonstrated how the latest AT&S technologies can improve the performance, efficiency, speed and size of applications. “With this virtual environment, we not only deliver a very special experience, but the ambience of the virtual showroom also fits in perfectly with AT & S’s image as one of the global technology leaders,” says CSO Peter Schneider.

“AT&S opted for the virtual version of TechDays because due to Covid-19 it was not possible to physically attend conferences or even to organize one”, explains Andreas Wippel, Director Global Sales at AT&S. The virtual showroom is a perfect setting for digital conferences because our customers and partners – no matter where they are geographically – can participate and interact with the speakers and AT&S experts. “With this event, we wanted to give our customers the latest technology updates on the one hand, and show them what we have in the pipeline on the other.”

And there is a lot to come: whether 5G applications, autonomous driving, high performance computing or innovative medical applications. “In all areas, the requirements in terms of speed, performance and efficiency are continuously increasing, as is the demand for new concepts and solutions,” says AT&S R&D director Hannes Voraberger. “With these developments, the printed circuit board has become more than just a carrier of passive and active components; it is an integral part of high-end electronic devices that must meet the requirements set by trends such as miniaturization, higher frequencies, reduction in latency or advanced thermal management arise.

After TechDays Europe, TechDays USA and TechDays Asia will take place in the virtual showroom this year. The dates for this will be announced soon.



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NEWS FROM THE UK



Centre for Power Electronics Annual Conference online 13-15 July 2021

Leading edge research presentations on the latest developments in converters and inverters from Professor Akagi, Tokyo Institute of Technology, Professor Tim Green, Imperial College and Professor Jiabin Wang, University of Sheffield.

State of the market analysis of SiC devices and applications by Simon Price of Exawatt

GaN device development and deployment by Giorgia Longobardi of Cambridge GaN Devices

Industrial presentations from exhibitors, including: Cupio Ltd, Heraeus Electronics, IP Test, Rohde and Schwarz and Zeiss Microscopy

Registration for Centre for Power Electronics Annual Conference is open below.

Delegate (Industry and Academic) - £100

IMAPS Member (UK and Worldwide) - £80

Early Career Researcher (Academic, RA and Post-Doc) - £30

Student (Undergraduate and Postgraduate) * – Free

Exhibitor (IMAPS-UK Corporate Member) - £400

Exhibitor (Non IMAPS-UK Corporate Member) - £500

Prices shown are exclusive of VAT.

* - in applying for a free registration, you may be asked to provide evidence of your status and affiliation to a Higher Education Institute/University.

For any other details or information please contact:
IMAPS-UK Secretariat
125 High Street Chesterton, Cambridge, UK
Tel: +44 0131 2029004
e-mail: Office@imaps.org.uk

NEW WEBSITE FOR CIRCUIT TECH MACHINERY LIMITED

A new website has been created by Circuit Tech., and it is a source of wonder that such a small link can thrust you into such a very large world. Lights under bushels comes to mind.

www.ct-int.net

Please take a look.



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NEWS FROM THE USA

Isola's New US Quick Turn-round Manufacturing Facility is Up and Running

Isola has completed the final phase of construction of our new 118,000 square foot facility located in Chandler Arizona. The facility houses corporate headquarters, a fully equipped, state-of-the-art research laboratory and the most recent addition, our new lamination and fabrication facility which was designed to serve US fabricators need for quick turnaround and prototype business. The new manufacturing facility will produce copper-clad laminates and dielectric prepreg materials used to fabricate advanced multi-layer printed circuit boards (PCBs).

The new facility is the first investment in a brand new PCB materials manufacturing facility in the US in this 21st century. The lamination system was custom designed to allow critical path orders to be inserted into the process without interrupting the overall flow of production. This unique level of flexibility enables our production team with a cost effective means to produce a low volume, high mix of products very efficiently.

Our highly automated facility has completed all shakedown testing and has been certified for production. Customer qualification samples have begun to ship to Insulectro and Isola customers for several of Isola's flagship products. Once our customers have completed their evaluations, we expect the systems will really start positively impacting our PCB and OEM customer's time-to-market.

Sean Mirshafiei, Chief Sales and Marketing Officer said, "We anticipate our new QTA facility will provide an incredible amount of flexibility for our PCB customers that produce prototypes and small lot production. Our highly automated and flexible production systems will reduce lead times and ultimately our end user customers time to market."

The new facility is part of the Lotus Project, which is located near Kyrene Road and Loop 202 at 6565 West Frye Road, Chandler AZ 85226. With the continued concerns over COVID-19, a Grand Opening celebration has been postponed until further notice.

However, if you are interested in seeing the facility via virtual tour, we invite you to set up a web call with your local Insulectro or Isola sales representative.



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ELECTRONIC INDUSTRY NEWS

Manufacturing Optimism Grows for Remainder of 2021

Purchasing and supply executives expect manufacturing growth will continue for the rest of 2021 with several metrics – capacity, capital expenditures and revenue – exceeding [forecasts](#) of late 2020. There is hope that the corner has been turned on the coronavirus pandemic, according to the [Institute for Supply Management](#), and both the U.S. manufacturing and services sectors are signalling expansion.

Industry sentiment for the electronics components market remained strong in April, according to the [ECIA](#). The sentiment looking toward May softened modestly compared with the prior month. However, this indicates a decrease in the rate of market acceleration and is not an indication of weakening growth.

Overall, U.S. manufacturers' revenue for 2021 is expected to increase by 7.2 percent, according to the ISM's Spring 2021 Semi-annual Economic Forecast. "This is 0.3 percentage point higher than the December 2020 forecast of 6.9 percent, and 8.5 percentage points higher than the 1.3-percent decrease reported for 2020 over 2019," said Tim Fiore, chair of the ISM's manufacturing survey committee.

Manufacturing Business Revenue						
	2020 vs. 2019		2021 vs. 2020			
	Reported Dec 2020	% Change	Predicted Dec 2020	% Change	Predicted May 2021	% Change
Higher	37%	+13.9%	59%	+12.7%	59%	+13.8%
Same	26%	NA	31%	NA	33%	NA
Lower	37%	-17.0%	10%	-7.0%	8%	-13.3%
Net Average		-1.3%		+6.9%		+7.2%

Source: Institute for Supply Management, Spring 2021

A majority -- 59 percent -- of survey respondents said that revenues for 2021 will increase 13.8 percent over 2020. Only 8 percent say revenues will decrease, on average, 13 percent, and 33 percent indicate no change.

Factories are operating at 88.3 percent of normal capacity, indicative of the easing of Covid-19 restrictions. At the same time, manufacturers report difficulty in finding skilled workers and delays or shortages of raw materials and components.

Production capacity is expected to increase 6.6 percent in 2021 and the demand to increase capacity is stronger than December 2020 expectations. Capital expenditures are expected to increase 8.7 percent in 2021 – a level not seen since 2018, said Fiore.

Prices have also seen a sharp uptick since the end of last year. Prices paid increased 8.3 percent through May 2021, and prices of raw materials are expected to increase a total of 8.1 percent for all of 2021. However, that's a decrease of 0.2 percent in prices for the rest of the year.

Given ongoing high demand in the electronics market, component lead times will continue to expand and prices will continue to rise, said the ECIA.

Manufacturing employment is expected to increase marginally, by 2.8 percent, in 2021. Manufacturers continue to cite their inability to hire or retain employees as a challenge to further expansion. Current unemployment benefits are keeping some people out of the workforce, said Fiore; others are hesitant to return to work because of Covid-19. Workers that are employed are benefiting from switching jobs as wages increase.

“With all 18 manufacturing-sector industries predicting revenue growth in 2021, panelists forecast that recovery will continue the rest of the year. The sectors’ responses were consistent with the industry-performance reports in April 2021,” said Fiore.

With operating rates at 88.3 percent; an expected capital-expenditures increase of 8.7 percent; an expected increase of 8.1 percent in prices paid for raw materials; and an expected employment increase by 2.8 percent by the end of 2021, manufacturing continues its comeback from the turmoil of 2020, he added.

ISM reports the services sector is also rebounding. As consumers resume entertainment, recreation and travel activities, pressure on manufacturing could ease. This, in turn, could help offset cargo capacity limits, which have plagued the shipping industry, and allow ports to catch up on their backlogs.



However, freight rates remain extremely high as capacity is maxed out and demand remains at peak levels, said freight marketplace [Freightos](#). Although U.S. retailers are now spending more on inventory than in 2019, those items continue to fly off the shelves. This means that even if consumer demand for goods declines as services rebound, retail restocking will keep ships full and rates up for some time longer.

ISM services respondents currently expect a 5.4-percent net increase in overall revenues, which is 3.8 percentage points higher than the 1.6-percent increase forecast in December 2020. Forty-eight percent of respondents say that revenues for 2021 will increase, on average, 15 percent over 2020. Meanwhile, 11 percent say their revenues will decrease, on average, 16.6 percent, and 41 percent indicate no change.

Services companies are currently operating at 89.4 percent of normal capacity. Supply managers have indicated that prices are projected to increase 4.9 percent over the year, reflecting increasing inflation. Employment is projected to increase 2.4 percent. Sixteen of 18 industries are forecasting increased revenues, compared to the 12 industries that predicted increases in December 2020.

In the December 2020 forecast, respondents predicted an increase of 2.5 percent in prices paid during the first four months of 2021; they report prices increased by 8.3 percent. The 74 percent who say their prices are higher now than at the end of 2020 report an average increase of 11.4 percent, while the 2 percent who report lower prices indicate an average decrease of 4.8 percent. The remaining 23 percent report no change for the period.

Author: Barbara Jorgensen

Barb Jorgensen is editor-in-chief for supply chain publication EPSNews and has covered electronics manufacturing, procurement and business for more than 25 years. Barb spent most of her career with Electronic Business magazine and EBN; freelanced; and then founded online publication EPSNews with two industry veterans—Bolaji Ojo and Gina Roos. EPSNews was acquired by AspenCore in 2017.

Impact of IC Shortage Extends Beyond Automotive

While much of the attention regarding semiconductor shortages has focused on the automotive sector, other industrial and digital sectors are being hit equally hard by IC supply chain disruptions.

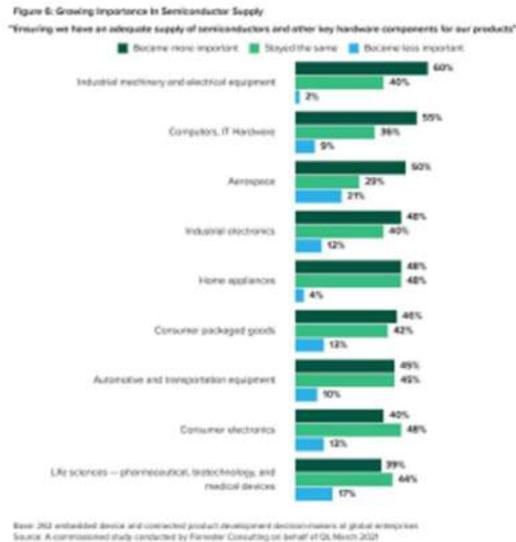
According to a survey of manufacturers commissioned by software vendor Qt Group and conducted by Forrester Consulting, the industrial machinery and electrical equipment segments are hardest hit by the [chip shortage](#). Not far behind are the IT hardware and computer sectors, having registered this highest percentage of product development slowdowns.

The poll of 262 embedded device and connected product developers carried out in March found that 60 percent of industrial machinery and electrical equipment manufacturers are now heavily focused on securing IC supply chains. Meanwhile, 55 percent of server and computer makers said they are struggling to maintain chip supplies.

Semiconductor shortages have forced [automakers](#) to shut down production lines in recent weeks. Still, the automotive sector ranked in the middle of the Forrester survey with respect to IC supply chain focus.

Overall, the survey found that nearly two-thirds of manufacturers have experienced setbacks in delivering new digital products due to silicon supply disruptions. That has translated into delays in production rollouts of more than seven months, the survey found.

“Organizations are [now] more focused on ensuring adequate supply” of semiconductors,” Forrester reported. “Consequently, half our survey respondents indicate that ensuring an adequate supply of semiconductors and key hardware components has become more important this year.”



Click on image to enlarge. (Source:

Forrester Consulting)

Among hard-hit server and computer manufacturers, 71 percent said IC scarcity is slowing product development. That’s occurring as demand for data center services like cloud computing and storage are booming along with streaming video applications for remote workers.

Among the recommendations for weathering the current semiconductor shortage are blunting the impact via what Forrester dubs “cross-platform frameworks.” That refers to stopgap measures like flexible software tools that support a wider variety of silicon, thereby “reducing the impact of critical supply chain shortages,” Forrester concludes.

In response to disruptions in the semiconductor pipeline, the market researcher also found that eight of ten executives surveyed report they are investing in “cross-device tools and frameworks that support multiple classes of hardware.”

Along with getting new products out the door faster, that approach is promoted as increasing supply chain flexibility while reducing the workload for harried software developers often juggling multiple product designs.

Indeed, new product development is also plagued by a shortage of developers with the skills required to leverage multipurpose software tools. Three-quarters of survey respondents said demand for connected devices is outstripping the supply of qualified developers.

Hence, software vendors like Qt promote tools like cross-platform software libraries as a way for product developers to cope with a chip shortage expected to extend through the second half of 2021.

“We’re at a crunch point in global technology manufacture and development,” asserts Marko Kaasila, senior vice president of product management at Qt, which is based in Helsinki, Finland.



George Leopold

George Leopold has written about science and technology from Washington, D.C., since 1986. Besides EE Times, Leopold's work has appeared in The New York Times, New Scientist, and other publications. He resides in Reston, Va.

Despite the Global Semiconductor Shortage, the PC Market Continues to Surge with Expected Growth of 18.1% in 2021, According to IDC

Despite ongoing concerns around semiconductor shortages the PC market continues to be one of the many consumer technology markets that is thriving. According to a new forecast from the International Data Corporation ([IDC Worldwide Quarterly Personal Computing Device Tracker](#)), shipments of PCs are expected to grow 18.1% in 2021 with shipments of just over 357 million units. While IDC still expects PC growth to drop slightly in 2022 (-2.9%), the overall five-year compound annual growth rate (CAGR) remains positive at 3%.

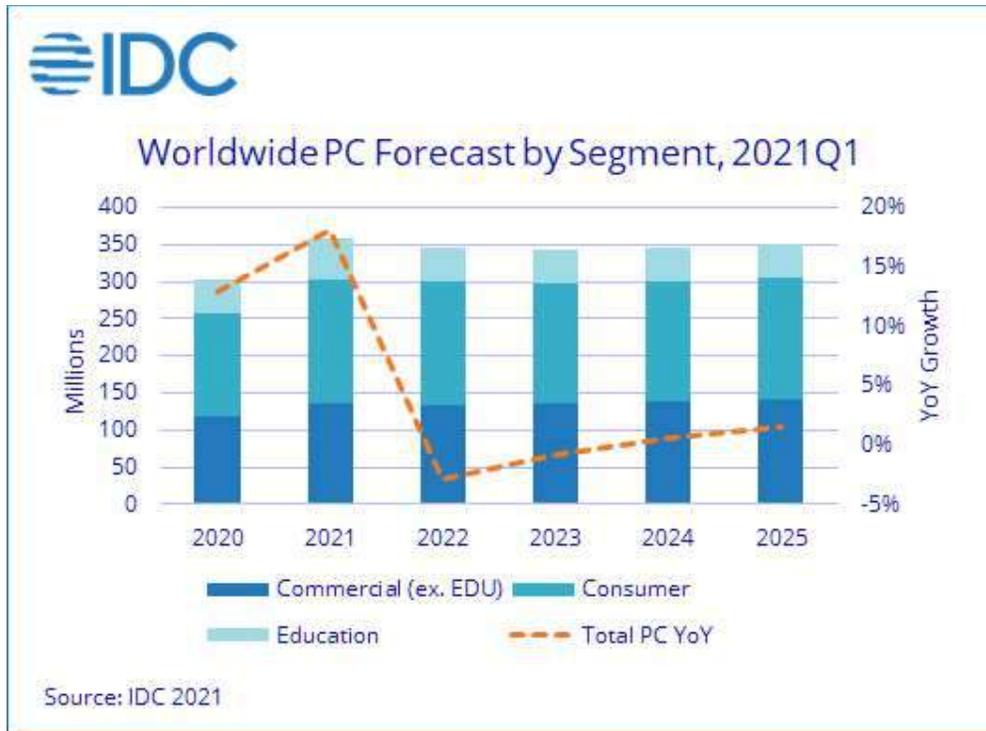
"We continue to get an abundance of questions about the growing semiconductor shortage and its impact on PCs, but it is important to peel back the onion because there is a lot happening underneath the PC supply chain," said [Ryan Reith](#), program vice president with IDC's [Worldwide Mobile Device Trackers](#). "We don't debate that the overall semiconductor market is constrained right now, but for the overall PC market it is a very different narrative than the years leading up to the pandemic. Prior to 2020, the market was undergoing CPU shortages and to a lesser extent tight memory and panel supply. Now the focus is around lower-priced components like notebook panel driver ICs, audio codecs, sensors, and power management ICs (PMICs). Nonetheless, without 100% of the parts; a finished system will not ship, so a bottleneck is a bottleneck."

"There is a common denominator across the parts in short supply (auto ICs, sensors, PMICs, display drivers), which is that they use the same technology of 40nm or older nodes," said [Mario Morales](#), program vice president, Semiconductors. "Mature technology nodes account for more than 50% of all the capacity in the semiconductor industry and suppliers are only gradually increasing capacity as they prioritize on the largest segments of their business and invest more on mainstream and leading-edge nodes. IDC expects that shortages will begin to ease by the end of Q3 this year. A broader upstream balance of the industry is not expected until the first half of 2022."

As things progress there is some common ground among the three major segments in the PC market: consumer, education, and commercial. All of these are in desperate need of inventory. From IDC's perspective, the consumer segment has the biggest upside looking forward compared to pre-pandemic levels, followed by education, and then commercial. Most regions around the world are still carrying channel inventory that is well below normal

and cancelled orders are not part of today's discussions. Demand remains high and supply remains constrained.

"As the component shortages continue into next year, we anticipate at least some of the buyers will settle for desktops in place of notebooks as the urgency of demand for any kind of PC remains quite high," said [Jitesh Ubrani](#) research manager for IDC's [Worldwide Mobile Device Trackers](#). "Longer term, the consumer refresh cycle is also expected to be pulled in slightly as the pandemic has raised the profile of PCs and consumers continue to spend more time and dollars on PC gaming and content consumption."



[Share the image](#)

Note: PCs include Desktops, Notebooks, and Workstations and do not include Tablets or x86 Servers. Detachable Tablets and Slate Tablets are part of the Personal Computing Device Tracker but are not addressed in this press release.

IDC's [Worldwide Quarterly Personal Computing Device Tracker](#) gathers data in more than 90 countries and provides detailed, timely, and accurate information on the global personal computing device market. This includes data and insight into global trends around desktops, notebooks, detachable tablets, slate tablets, and workstations. In addition to insightful analysis, the program delivers quarterly market share data and a five-year forecast by country. The research includes historical and forecast trend analysis.

For more information, or to subscribe to the research, please contact Kathy Nagamine at 650-350-6423 or knagamine@idc.com.

About IDC Trackers

[IDC Tracker](#) products provide accurate and timely market size, vendor share, and forecasts for hundreds of technology markets from more than 100 countries around the globe. Using proprietary tools and research processes, IDC's Trackers are updated on a semiannual, quarterly, and monthly basis. Tracker results are delivered to clients in user-friendly Excel deliverables and on-line query tools.

[Click here](#) to learn about IDC's full suite of data products and how you can leverage them to grow your business.

About IDC

International Data Corporation (IDC) is the premier global provider of market intelligence, advisory services, and events for the information technology, telecommunications, and consumer technology markets. With more than 1,100 analysts worldwide, IDC offers global, regional, and local expertise on technology, IT benchmarking and sourcing, and industry opportunities and trends in over 110 countries. IDC's analysis and insight helps IT professionals, business executives, and the investment community to make fact-based technology decisions and to achieve their key business objectives. Founded in 1964, IDC is a wholly owned subsidiary of International Data Group ([IDG](#)), the world's leading tech media, data, and marketing services company. To learn more about IDC, please visit www.idc.com. Follow IDC on Twitter at [@IDC](#) and [LinkedIn](#). Subscribe to the [IDC Blog](#) for industry news and insights.



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NEWS FROM THE IPC

North American PCB Industry Sales Up 6.0 Percent in April

IPC Releases PCB Industry Results for April 2021

BANNOCKBURN, Ill., USA, May 26, 2021 — [IPC](#) announced today the April 2021 findings from its North American Printed Circuit Board (PCB) Statistical Program. The book-to-bill ratio stands at 1.16.

Total North American PCB shipments in April 2021 were up 6.0 percent compared to the same month last year. Compared to the preceding month, April shipments fell 18.1 percent.

PCB bookings in April fell 10.2 percent year-over-year. Bookings in April decreased 27.8 percent from the previous month.

“After strong orders in March, April PCB shipments were constrained by ongoing supply chain disruptions,” said Shawn DuBravac, IPC’s chief economist. “The coming months will likely show volatile order and shipment flows.”

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.

IPC and ITI to Host Conference on Critical and Emerging Environmental Product Requirements

BANNOCKBURN, Ill., USA, May 20, 2021 —[IPC](#) and the [Information Technology Industry Council \(ITI\)](#) will host a virtual conference, "[Critical and Emerging Environmental Product Requirements](#)" on June 29 from 11:00 am to 3:30 pm EDT. The event will explore the latest environmental requirements

that impact product design, manufacturing, supply chain management, and technology innovation.

Speakers will include leading environmental regulatory experts Paul Tennant, Graeme Vickery and Hermione Mackelworth from the U.K. Department for Environment, Food and Rural Affairs (DEFRA), Madalina Laxton from the European Commission, Directorate-General for the Environment, and Joel Wolf from the U.S. Environmental Protection Agency (EPA).

Tennant and Vickery will provide an update on Brexit and possible environmental regulatory changes resulting from Brexit. Mackelworth will cover U.K. REACH. Laxton will address the latest policy developments on the EU's RoHS Directive. Wolf will cover risk evaluations and risk management under the Toxic Substances Control Act (TSCA).

“New global environmental compliance requirements are emerging and existing requirements seem to be constantly evolving. To ensure adherence to environmental regulations, companies need to continually calibrate their compliance management functions,” said Kelly Scanlon, IPC director of environmental policy and research. “Misunderstanding these ever-changing requirements could have a disastrous impact for business. ITI and IPC’s virtual conference will provide the information compliance professionals and officers need to be up to date with legal, regulatory, and customer requirements.”

“From Brexit to a new administration in the U.S., recent changes to governments are having a real impact on environmental compliance regulations across the globe,” said Chris Cleet, ITI vice president of policy for

environment, sustainability, and regulatory. “This conference will give companies a unique opportunity to hear directly from government officials and experts about the current policy landscape and provide critical information and resources compliance professionals need to effectively navigate new regulations and stay ahead of future changes.”

The event is sponsored by The Compliance Map, Benchmark ESG I Gensuite, Total Parts Plus (TPP), and iPoint.

For detailed information on the agenda, speakers or to register for the “ITI and IPC Conference on Critical and Emerging Environmental Product Requirements,” visit <https://www.ipc.org/environmental-conference-2021>.



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International Diary

2021

9th EIPC Technical Snapshot Webinar

Registrations via www.eipc.org

June 16

10th EIPC Technical Snapshot Webinar

Registrations via www.eipc.org

July