



The European Institute for the PCB Community

EIPC SPEeDNEWS

*The Weekly On-Line Newsletter from the European Institute of Printed Circuits.
Issue 29 – September 2021*

NEWS FROM THE EIPC

EIPC ANNOUNCE THEIR NEXT TECHNICAL SNAPSHOT

At a recent rather well-known concert in London it was observed that all the singers were socially distanced and the members of the orchestra were also socially distanced, as was the conductor. The audience, however, were packed in like sardines in a tin, and sang lustily throughout the second-half of the show. The rules it seems are open to interpretation. Open to invitation, and needing no interpretation, is another well-known event, which is where notes are taken and not played. It is an EIPC Webinar to be held on

22nd September 2021 at 1500 hours CET

There will be three speakers: the first is **Emma Hudson Technology Consultant, whose paper is entitled UL Solder Limit Changes – Time to get prepared**

Abstract: In the last twelve months new editions of UL 796 (PCBs), UL 746E (laminates and coatings), UL 796F (flexible PCBs), and UL 746F (flexible materials) have been published that include standardised solder limits. Emma will look at what they are and what changes the industry can expect to see because of them. She will also provide guidance on what both material and PCB manufacturers should do to prepare for this imminent change to the UL Recognition and how the PCBs will be inspected at the OEM/EMS facilities.

Then follows **Marko Pudas, from Picosun Oy, in Finland who will discuss Atomic Layer Deposition (ALD) for PCB(A) – from solder mask to corrosion barrier**

Abstract: In medical side, there's high interest in new applications utilizing PCB(A)'s, aside of existing applications like pacemakers. Protecting the PCB and the human body from each other, various PCBs with novel ALD coatings directly over the PCBs are already in pre-clinical and clinical trials and expected to enter market over the next 1-2 years. This leads to needs from novel PCB and PCBA materials being introduced to counteract complications like gassing. PCB solder masks are typically manufactured with polymer by different printing or lithography methods. In order to achieve even gaseous corrosion protection for Cu-traces, solder mask needs to have thickness which is already causing challenges for cleaning and underfill of high pitch BGA/flip-

chips. Yet further degassing of various organic materials of PCB(A), especially solder mask, are the among the most limiting factor for use environments like medical and space. Picosun has been developing ALD metal oxide coatings with ESA for mitigation of mentioned challenges for space applications, with further applications such as medical. The presentation will discuss recent achievement and lessons learned.

From Elmatica in Norway comes Jan Pedersen, who will introduce UHDI (Ultra High-Density Interconnections), a new area in the PCB industry.

The new PCB requirements in the high-density designs which require the development of related standards, from design to PCBA. He will show how capabilities in the component industry merge into the PCB field.

There will be a Q&A session after the last speaker.

For EIPC members the seminar is free of charge; for non-members the fee will be € 50,-.

Please contact us to reserve your place. Being socially distanced is for others to worry about; our performers and their audience will all be respectably apart.

Online Registration; visit www.eipc.org



picosun

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NEWS FROM ELECTRONICA

Machine learning is becoming standard

For companies, machine learning and artificial intelligence are key technologies and drivers of growth. And those who shy away from investments in this area are in danger of falling behind.

Authorities and the public health system did not exactly cover themselves with “digital” glory during the coronavirus pandemic. Faxes and paper documents sometimes caused costly, if not health-endangering, delays. It’s a good thing that at least German companies are increasingly relying on digitalization. And machine learning (ML) and artificial intelligence (AI) play a central role here. After all, according to the IDG study “[Machine Learning 2021](#),” almost two thirds of the companies surveyed use machine learning or are currently developing appropriate solutions.

This applies to almost three quarters of the large companies (those with more than 10,000 employees) and to over half of the smaller companies. 20% of the participants in the study even significantly increased their spending on ML during the pandemic.

Lower costs, higher productivity

Worin sehen Sie in Ihrem Unternehmen die größten Hürden für die Anwendung von Machine Learning?

Angaben in Prozent. Mehrfachnennungen möglich. Top-3-Nennungen. Filter: Unternehmen, die bereits ML-Technologien im Einsatz haben, gerade einführen oder dies aktuell planen.
Basis: n = 271



The main challenges for Machine Learning

© pixabay

And it doesn't take long to see successful results. Around two thirds of the companies were able to enjoy measurable added value after three months at the most. The three most important criteria for this were increases in productivity and efficiency, and reductions in cost. Factors like a higher degree of innovation or new products and services generated with AI and ML, meanwhile, ranked lower. The latter, however, applies to small and medium-sized companies in particular. For around 40% of large companies, an increase in the power to innovate is of great importance.

For example, a study by ZEW Mannheim on behalf of the [Federal Ministry for Economic Affairs and Energy \(BMWi\)](#) shows that, through the use of AI, German companies achieved sales of 7.6 billion euros with world market innovations as early as 2018.

For medium-sized companies, the strategic potential of AI and ML ranks well behind short-term benefits such as cost reductions through the optimization and automation of internal processes. The administration of complex IT and cloud environments or protection against rampant cyber-attacks can hardly be done by hand. And according to the IDG study, quality assurance in production (54%), research and development (54% each) and logistics (53%) increasingly rely on "intelligent" technologies.

Wanted: AI and ML experts

However, problems arise due to the lack of data scientists and data engineers. This was recently reported in the "[ISG Provider Lens Analytics—Solutions and Service Partners Report Germany 2020.](#)" After all, only the specialists are able to define use cases and design them in such a way that the desired added value occurs and serves as a suitable basis for fact-based decisions at the management level.

The IDG study reaches a similar result. 37% of companies have problems finding AI and machine learning experts. This affects large companies in particular, which is why they are increasingly training their own employees. However, while the executive level has recognized the potential, IT and specialist departments continue to view AI with skepticism. A third of the executives surveyed stated that they are still struggling with acceptance problems on the part of the workforce.



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NEWS FROM GERMANY

Zuken and Vitech Announce Co-Located Industry Events

Zuken Innovation World and Vitech Integrate planned for San Antonio, Texas in 2022

Zuken and Vitech, a Zuken Company, announced co-located events for June of 2022. The inaugural Vitech Integrate, an international symposium for Digital Engineering will take place alongside Zuken Innovation World Americas, the annual Zuken USA user and technology conference. The events will share a common keynote, exhibit area, networking, and social functions.

Focus on Digital Engineering

Digital Engineering will play a central role in the co-located events. As companies look to Digital Engineering to address increasing product complexity and improve the product development process, they have many unanswered questions. The conference agenda is built to bring clarity to the Digital Engineering process from model construction and relevance to implementation.

“Our goal is to bring together the digital engineering community with a compelling agenda spanning the entire digital engineering design process,” said Kent McLeroth, president and CEO of Zuken USA. “These co-located events are unique in that they offer our attendees a collaborative experience where systems engineering and detailed design meet.”

Zuken Innovation World

After a successful virtual ZIW conference series in 2021, Zuken is planning the return of their popular in-person events in 2022. Zuken Innovation World (ZIW) conferences take place in locations around the globe starting in the spring and continuing into the early fall months. The event is centered on the three pillars of networking, learning, and innovation and will feature multiple technical tracks showcasing how-to and best practices using the Zuken tool suites as well as introduce innovative design methodologies and industry trends. Over the years, the ZIW conference series has built up a solid reputation for quality and depth of information. 2019 ZIW attendee,

Peggy Wallace, with LAM Research noted, “Incredibly informative, between learning new skills and the roadmap, I can immediately improve productivity and prepare for the future.”

Vitech Integrate

The Vitech Integrate symposium aims to foster dynamic, vibrant discussions around all areas of digital engineering, with a focus on open and connected solutions. The symposium’s technical program features three presentation tracks from world-renowned experts covering topics such as model-based systems engineering (MBSE), artificial intelligence in systems and product design, smart manufacturing, digital engineering in an industrial context, system safety and reliability, cybersecurity, and enterprise architecture. Selected presentations will emphasize novel methods and approaches to solving real-world problems and will not be limited to any specific tooling.

The in-person co-located events are planned for June 6-9, 2022, at the San Antonio Marriott River Centre, located in San Antonio, Texas. The call for presentations will open on October 1, 2021, with early bird registration starting on February 1, 2022.

Global upcoming ZIW events include:

- May 3-4, 2022 – Darmstadt, Germany
- June 3, 2022 – Lucerne, Switzerland
- June 6-9, 2022 – San Antonio, Texas
- June 14, 2022 – Bologna, Italy
- June 16, 2022 – Paris, France
- September 29, 2022 – Birmingham, United Kingdom
- October 2022 – Yokohama, Japan



Caption: ZIW returns to an in-person event series in 2022.



Caption: David Long, president of Vitech, with Kent McLeroth, president and CEO of Zuken USA, Inc.

About Zuken

Zuken is a global software company delivering electrical and electronic design solutions. Founded in 1976, Zuken has a consistent track record of technology innovation and financial stability in the electronic and electrical design automation (EDA) industry. With its CR-8000 and E3.series product families, Zuken provides a robust lineup of system-level 2D/3D electrical and electronic toolsets complemented by comprehensive design data and configuration management capabilities.

Most recently, Zuken has embraced the digital transformation and, more specifically, digital engineering as the way forward with its entry into the Model-Based Systems Engineering (MBSE) industry. Today, Zuken delivers world-class design solutions combining MBSE products and services with a mature, proven electrical and electronic design suite to address the needs of a broad range of industries across the globe. For more information about the company and its products, visit www.zuken.com, www.zuken.com/blog, or www.linkedin.com/company/zuken

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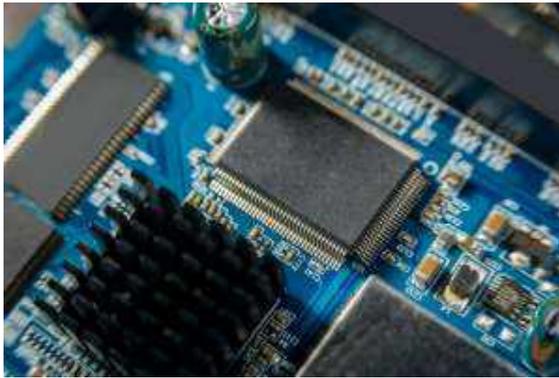
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ELECTRONIC INDUSTRY NEWS

Component Shortages to 'Last Well Into 2022,' Execs Predict



The challenges related to semiconductor and other component shortages will be with us for a considerable time, according to more than a dozen manufacturing executives. We asked these decision-makers and their partners about current issues; the impact of shortages; how long the scarcity will last and how they are protecting themselves from counterfeit goods.

We also asked what they see as a long-term solution for the severe boom-bust cycles typical of the electronics industry.

The long haul

The common consensus is this will be a long haul with problems into 2022 or even longer. "I can't believe that the situation is going to improve before 2022," said Pascal Aubois, plant manager of GDL Circuits (Mexico). "We are currently able to keep our SMT lines running but we have stopped the weekend shifts. It's more and more challenging to plan production weeks ahead and on top of the challenges with components we are facing logistics issues and very long lead times for printed circuit boards coming from Asia by sea."

The issue of plant closures in Malaysia due to Covid-19 is not helping either, he added. Carl Hung, CEO of Season Group adds, "the Covid-19 pandemic has significantly rattled the supply chain and it will take at least a year until there is any recovery."



Carl Hung, Season Group

“We expect this drama to continue until at least the end of this year and probably well into the first quarter of 2022 as we still don't see demand falling off in any of the key industries or supply rising dramatically,” said Rainer Koppitz, CEO of KATEK Group. “And let’s be clear, components are just one part of the supply chain under stress. There are issues with other custom parts like printed circuit boards, not to mention the exponentially rising costs of freight due to increased demand and reduced capacity.”

Koppitz explained these supply constraints are stressing relationships with customers as costs escalate, curtailing growth in revenue and profit as volumes are constrained and margins eroded. This is stressing cash flow as working capital demands explode.

“This is probably the biggest challenge facing the industry right now and it is impossible, as an EMS company, to not be affected,” concurred Bruno Racault, CEO of ALL Circuits. “The shortages are causing us to book more as people commit orders further ahead, and to bill less, so growth in our demand cannot be met. This has an impact on cash, on staff and on our customers. More than ever we need to be open and collaborative with all the stakeholders - customers, our team, and our entire supplier base.”

The semiconductor industry is not a fast moving sector, he added, and while there has been a flurry of new fab announcements there won’t be an immediate benefit from those projects.

Mark Wood, CEO and president of Canadian EMS Microart, sees “little light at the end of the tunnel. "According to Mintel, some analysts predict the chip shortage will last through until the end of 2022. Others estimate that supply won’t catch demand until 2023-2024. That’s a long time.” Wood added, “we recognize that we cannot solve the global chip shortage. However, at the end of the day, all we really care about is getting things made for our customers, even in times of crisis. This is what saw our customers through the pandemic and this is what will see them through this crisis.”

Cash is king, or is it?

The role of EMS companies is problem-solving and managing disruption. Many companies, such as Zollner and KETEK, have developed special teams to focus on searching for the devices that are available.

“We are now in a tense situation in production supply due to disruptions caused by delayed material deliveries,” said Alfred Birgmann, Zollner’s vice president for global procurement. “We currently expect the situation in the area of passive components to relax mid- 2022 and in the active component area not until the end of 2022 or the start of 2023.”

Long-term, stable demand planning is critical, he added. “We must be able to transmit demand numbers for at least 12 months and even better, 24 months. Most critical is that suppliers with very long production lead times, 120 days or more like semiconductor manufacturers, have long-term and plannable transparency. ‘Pipeline is king’. On the other hand, we need to rethink warehousing due to the constant disruptions in the global supply chain and build in more security, which in the end also means more flexibility. We used to say 'cash is king,' but today the motto is ‘stock is king.’”



Bruno Racault, ALL Circuits

“We are trying to select the escalations as early as possible to react quickly with solutions like second sources, availability checks in global markets, re-design proposals -- all to serve our customer on time,” said Christoph Antener, group director for strategic sourcing for KATEK Group. “And of course we step in at group level in those escalations with manufacturers and our suppliers to get at least some allocated minimum quantities for our sites.”

BMK knows how to handle itself during a crisis, said Susanne Gujber, head of purchasing. “Since last summer, we have been working through this predicament with the assistance of our long-term manufacturer and supplier strategies. We can make quick decisions and adapt well to the constant changing issues due to our close and direct customer connections.”

Procurement, she added, is not unevenly dispersed across many areas, but rather focused in one location. "Our lead buyers always have an eye on the market and are networked very well with one another. Our transport management team is a huge benefit for us and provides an absolute advantage for reliable shipments. Despite everything, the situation remains very challenging for us and the whole EMS business. With each passing month, the circumstances become even more arduous and will demand a lot from us throughout the remaining year."

New fab announcements, concluded Koppitz, don't help in the current situation. "If there are no chips, there are no chips. Full stop. And then some sort of Wild West happens -- and after the big shootout we will see who survived."

Editor's note: This is the first article in an occasional series interviewing executives on the global electronics component shortage.

Author: Philip Stoten

<http://www.wearescoop.com>



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NEWS FROM THE UK

Proceedings Now Available

Future Horizons' Mid-Term Semiconductor Industry Outlook

The full IFS2021 Mid-Term Seminar proceedings (237 slides) is now available for purchase, either call (+44 1732 740440), e-mail (mail@futurehorizons.com), fax (+44 1732 608045), on-line (www.futurehorizons.com) or by post (Blakes Green Cottage, Sevenoaks, Kent TN15 0LQ, England).

Find out the reasons why we were the only analyst back in January to correctly forecast 2021's shortages and double-digit growth and how we see the market playing out in 2022.

Our industry forecasts, methodology and analyses have proved both accurate and insightful, and this year's industry update will prove no exception. We don't just tell you what our prognoses are, we also tell you why with supporting data and analysis.

Watch the Webinar highlights here: <https://youtu.be/xOJqHeDIUCI>

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Editor's note – we are fortunate enough in the UK to have this long-established company upon whom Her Majesty's Government relies for information on this sector. Given that much of the automotive and electronic supply chain now rests upon the semiconductor, this outlook report is of vital international importance.



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International Diary

2021

11th EIPC Technical Snapshot Webinar

Registrations via www.eipc.org

22 September

KPCA Korea

6-8 October

12th EIPC Technical Snapshot Webinar

Registrations via www.eipc.org

14 October

EIPC @ Productronica 2021

Stand B3-529

Messe München

16-19 November

13th EIPC Technical Snapshot Webinar

Registrations via www.eipc.org

24 November

EIPC @ Evertiq Tampere

Tampere, Finland

1 December

TPCA Taiwan

21-23 December