

Good Planning Made ECCE 2022 Productive For Attendees And Exhibitors

by Kevin Parmenter, Contributor, [How2Power.com](#)

The [IEEE Energy Conversion Congress & Exposition \(ECCE 2022\)](#), which was held October 9-13 at Huntington Place in downtown Detroit, was the first in-person conference I have participated in since Covid canceled most of them in 2020 and turned almost every event virtual. It not only marked my return to face-to-face events, but it was also my first visit to ECCE, both as an attendee of the conference and as an exhibitor.

As a first timer, I did not have preconceived notions about the technical program or exhibition. However, as someone who has participated in many other electronics conferences over the years, especially those of the power electronics kind, I did have some expectations of what my experience might be as an exhibitor. In this article, I will share my observations on ECCE 2022 both as an attendee and as a person responsible for his company's booth in the exhibition.

Detroit Means Vehicle Electrification

Holding a conference focused on energy conversion, which covered both power electronics and electric machines, in the city of Detroit resulted in tremendous attendance and a focus on developments in the automotive industry. According to the conference, there were 1247 registered attendees present in Detroit with another 710 signed up for the remote conference sessions which were hosted the week after the in-person event.

There were 54 exhibiting companies and universities as listed below.

The focus on automotive technology was evident in both the technical program and the exhibition. Not surprisingly, the subject matter was perfect for the place and time. With the disruption of the industry shifting from traditional vehicle design to electrification of transportation, the vehicles are turning into conglomerations of mobile sensors, communications devices, motor drives, power converters and self-driving autonomous transportation devices and services.



A scene from the ECCE 2022 exhibition.

The power electronics content in vehicles is skyrocketing and might turn into the largest electronics market ever. ECCE's technical program content was perfectly aligned with the applications in vehicles now being developed. There was similar synergy in the expo. I surveyed the exhibit hall and 25 percent of the offerings consisted of software, mostly to simulate complete vehicles, traction drive, and control systems. This is significant because the idea of speeding the design and development of new products and getting to first pass success in prototyping is economical. Also, I noted that half of the exhibits offered working demonstrations of one kind or another which is also a plus for attendees.

Trial and error on hardware is time consuming when time-to-revenue is everything. Responding to the market's need for better engineering productivity, design automation and CAD tools are growing in capability, as evidenced by the products on display at ECCE. The other power electronics events I've attended previously, were much more hardware and component centric, so I think it's instructive that a quarter of the exhibitors at ECCE were offering software and simulation tools for power electronics design and validation. Some of the other

exhibitors on-hand represented vendors of test and measurement equipment for validating and testing power electronics.

Since the conference was in Detroit the transportation industry was well represented not only in sponsorship and booth space but also in the attendee base. Engineers from tier 1-2 and 3 automotive companies participated in the exhibits as well as attending the plethora of papers on power electronics topics.



Hybrid vehicle platform and EV power electronics HW seen in exhibit hall.

The ECCE conference has historically emphasized devices and applications for higher power levels in comparison with other power electronics events I have attended. Yet, I found the paper and poster sessions spanned a wide range of topics and power levels. Similarly, the presenters and participants from industry and academia appeared to be working in a range of application areas. Several of the papers were about industry partnering and sponsoring academic research and development which is always very nice to see. Over half the exhibits had working demonstrations present which is also good.

All in all, it seems that IEEE ECCE has hit its stride as a well-run and significant event in the power electronics industry. The conference is producing useful and practical power electronics information for working engineers to take back to the lab and use quickly, which after all is why we want to attend any event isn't it? It must make a positive difference otherwise why go?

It was also a great idea by the ECCE planners to host the conference in proximity to power electronics engineers who are allowed to participate. Additionally having an event close to customers attracts the commercial attendees who make it a point to visit current and prospective customers when they are in town—which is something my colleagues and I did.

Having an event in Fiji, Hawaii or Bali might be a whole lot of fun for a conference planning committee and for academia to attend. However, the business world must justify everything it does to accountants before getting permission to participate. If there is no clear expectation of a return on investment, the answer from the bean counters is usually no.

If business needs to be involved, companies must justify everything with customer visits and metrics. So having an event close to customers and power electronics engineers—as ECCE 2022 did in Detroit—made it that much easier to make the case for participating in the conference, both as an attendee and as an exhibitor.

The Exhibitor Experience

Now I will venture a little beyond the attendee experience that most conference reporters write about and share what it was like to be an exhibitor at ECCE. Though I had been promised by some that it would be a pleasant experience, I was nevertheless surprised and pleased when I found that to be the reality. Prior to Covid and then during the pandemic, I observed some very strange behaviors in the conference world. So going into ECCE I was skeptical.

And after exhibiting at so many other conferences and trade shows, I was dreading many aspects of exhibiting and participating that I did not miss during the time of Covid quarantine. These are things like byzantine registration processes, vigs and gouges for every step of preparing an exhibit. Pay to ship your booth equipment and company wares, pay for the venue to receive your stuff, then pay again for them to move your stuff where you want it. Move-in experience often involves a bunch of people driving forklift trucks at high speeds, missing you and your booth materials by inches.

You need electricity for your booth? Pay the union guys to plug in any outlet strips and cords at \$300 each plug. Pay to rent the mandatory table and chairs for \$900 a day. Rent a trash can for \$200 per day. Plus, there's the mandatory rental of shag carpet that looks like it came out of a Denny's remodel in 1986 that's \$800 a day. You then pay a fee for vacuuming at the end of each day by an apathetic exhibit hall worker who runs the vacuum over the corner—probably with the vacuum turned off.

Oh, your booth demo needs Wi-Fi—well for only \$5000 a day you can get Wi-Fi for one device at your booth from the convention center. After the event you get to reverse all the processes and pay your way out of the thing. Those were some of the typical hassles I feared and I've only scratched the surface here.

Well, to my surprise I encountered none of the exhibition problems described above. The ECCE expo was hassle free. Everything needed was included in the booth rental including Wi-Fi. The show management staff were friendly, polite, and helpful. Exhibitors could carry our stuff into the hall, and take our time setting it up, including plugging in our gear. You could have driven a tricycle through my mouth I was so stunned.

And on top of the trouble-free exhibitor experience, this was the easiest conference to register for and attend that I have participated in since I can remember—ever. I was waiting for the other shoe to drop and it never did. It was simply amazing how pleasant the experience was. To the organizers, keep up the great work and Nashville 2023 will be another success.

ECCE 2022 Sponsors

- Exhibition Reception Sponsor: Altair
- Platinum Sponsors: GM, Ford, and Magna
- Gold Sponsors: STMicroelectronics and Opal RT-Technologies
- Silver Sponsors: Torquemeters, Imperix, Halla Mechatronics, Plecko, How2Power.com, GaN Power International, Typhoon HIL, Powersys Solutions and MagniX

Exhibiting Companies

- Advanced Test Equipment
- Airity Technologies
- Altair
- AmePower
- Ansys
- DEWESoft
- EGSTON Power Electronics
- Electronic Concepts
- EMWorks
- Esteco
- Ford Motor Company
- Fuji Electric
- GaN Systems
- GaN Power International
- GM
- GMW Associates
- HBK Hottinger Bruel & Kjaer
- Hioki USA
- How2Power.com
- HVR Advanced Power Components
- Imperix

- InfraTec Infrared
- Kaney
- Keystone Powdered Metal Company
- Magna
- MagneForce Software Systems
- magniX
- MathWorks
- MDPI-Machines
- Mersen
- Opal-RT Technologies
- Payton America
- Plecko
- Plexim
- Powersys
- Sanrex
- Stellantis
- STMicroelectronics
- Taiwan Semiconductor
- TDK-Lambda Americas
- Teledyne LeCroy
- Torquemeters
- Typhoon HIL
- Verivolt

Exhibiting Universities

- Center for Power Electronics Systems (CPES) at Virginia Tech
- FREEDM Systems Center at NC State University
- Georgia Institute of Technology (Georgia Tech)
- Michigan State University
- Ohio State University-CHPPE
- University of Maryland
- University of Michigan
- University of Pittsburgh
- University of Tennessee at Knoxville
- Wisconsin Electric Machines and Power Electronics Consortium (WEMPEC) at the University of Wisconsin

Other Exhibiting Organizations

- IAS
- PELS
- ECCE

About the Author



Kevin Parmenter is an IEEE Senior Member and has over 20 years of experience in the electronics and semiconductor industry. Kevin is currently director of Field Applications Engineering North America for Taiwan Semiconductor. Previously he was vice president of applications engineering in the U.S.A. for Excelsys, an Advanced Energy company; director of Advanced Technical Marketing for Digital Power Products at Exar; and led global product applications engineering and new product definition for Freescale Semiconductors AMPD - Analog, Mixed Signal and Power Division.

Prior to that, Kevin worked for Fairchild Semiconductor in the Americas as senior director of field applications engineering and held various technical and management positions with increasing responsibility at ON Semiconductor and in the Motorola Semiconductor Products Sector. Kevin also led an applications engineering team for the start-up Primarion. Kevin serves on the board of directors of the [PSMA](#) (Power Sources Manufacturers Association) and was the general chair of APEC 2009 ([the IEEE Applied Power Electronics Conference](#).) Kevin has also had design engineering experience in the medical electronics and military

electronics fields. He holds a BSEE and BS in Business Administration, is a member of the IEEE, and holds an Amateur Extra class FCC license (call sign KG5Q) as well as an FCC Commercial Radiotelephone License.