

Below are the updates to the minutes for June 21st meeting which will be the Agenda for our next meeting at 11:00 CDT on **July 14**.

Attendees

Joe Horzepa	PSMA
Brian Narveson	Consultant
Ralph Taylor	Delphi

It was agreed that the theme **"Electrification, it's not just about the powertrain"** is in fact a good title and that we should stick with it. As topic items we started to list ideas and define possible sources for speakers:

- 1) Electrification of Air Conditioning - Power Steering - Compressor - etc.
 - A) Nexteer for Steering
 - B) Halla for Steering
 - C) Air Conditioning ???
 - D) Compressor

No identified sources for this topic

- 2) Standards & Redundancy Requirements

A) AEC / Fred Weber to attend annual meeting week of April 25, will check to determine if they have a possible speaker **_ NO they are updating the AEC passive specs**

B) ISO26262 / **John Vigers to check with Allegro's standards point of contact to perhaps get a lead to an ISO and/or ASIL contact**

- 2A) Separating Liability / Component to System to OEM to Consumer ???

No identified sources for this topic

- 3) Generic Roadmap For Electrification **changed to Challenges for Future Transportation Electrification**

A) GM / Fred to call his contacts in Advanced Engineering **GM said NO**

B) Chrysler / **Fred to call his contacts at Continental - who sells to Chrysler**

C) Ford **Jun to discuss with FORD, USCAR , USDRIVE and DOE for potential speakers**

- 4) Centralized vs. Decentralized Power Supplies

Same as 3 - this is viewed as an OEM decision

No additional thoughts

- 5) 12V to 48V transition & Supply Chain - this is viewed as a European issue since they are leading the way on this transition

Fred will contact Continental (Dennis) for his inputs

To: steven.kowalec@continental-corporation.com

Hi Steve, it was nice chatting with you yesterday. As we discussed the Transportation Committee will be holding another Industrial Session at the next APEC. We are looking for someone to discuss the use of 48V in the vehicle and it sounds like you have some good candidates to do that presentation. APEC will be held in Tampa FL next year, but I suspect that you are pretty familiar with APEC.

Please let me know what the proper next step is. I would be interested in having a contact that would be performing the presentation so that I can invite him to our committee's next conference call.

As a side note, I am sure over the years we have had meetings together, but I did not have you in my database so maybe not. I have attached my Line Card for your review. If you have any immediate needs please sure to let me know. I did meet with Norm earlier this year with ECI. He had indicated that he wanted ECI to look at a capacitor design, but then we were never able to make contact again.

I look forward to any feedback that you may have.

- A) Daimler ??
- B) BMW ??

6) Hacking Concerns - Security

- A) Onstar ??
- B) Tesla ??

C) Chrysler ?? May want to address what they have changed since the well known hacking case that was on 60 Minutes

Ralph will discuss options with contacts at Delphi

7) Obstacles to Driverless Cars

- A) Delphi / Ralph Taylor ??
- B) Google ??
- C) Tesla ??

Ralph will discuss options with contacts at Delphi

Difficult to find speaker

8) New Battery Chemistry to better support additional Load

- A) Hitachi ??
- B) Samsung ??

Fred to Contact Panasonic

9) Infrastructure, Fast Charging, Wireless Charging - What are the new trends, obstacles, opportunities. What about Fuel Cells?????

Ralph to contact ORNL about a possible speaker

10) Additional Ideas?????

Ralph to contact a company working on thermo - electrics for automotive – contacted not interested

11) Reliability of hybrids vs ICE

Ralph to contact ORNL, NREL, Argonne??? Consumer reports

12) Power Technology Roadmap consultant on wireless charging – John Miller

Ralph to contact John (see if Jun can make the contact)

If anyone can offer possible names of people that can help with any of these titles, or perhaps get us closer to a source that would be very helpful.

We look forward to having you join us at our next Committee meeting!

From John Vigers

With regards to our discussion on 12V vs. 48V systems I recently read an article that quoted a technical development member from Audi, Dr. Ulrich Hackenberg, on their plans to use a dual system. Maybe he'd be willing to present. Just a thought.

Audi will introduce 48V electrical architectures to its vehicles to improve efficiency. It will use a dual 12V/48V system, which will allow engineers to integrate systems such as electrical booster technology - which has been showcased on Audi's RS5 diesel concept vehicle. The vehicle is fitted with an electrically powered compressor that operates independently of the engine load, and helps improve acceleration performance. Audi's member of the board for technical development, **Dr Ulrich Hackenberg**, said: "We are using the full bandwidth of electrification in our drive principles strategy. Running part of the vehicle electrical system at 48 volts plays a central role in this. It enables us to make more energy available. That paves the way for new technologies with which we can make our cars more sporty, more efficient and more convenient to use."

Read more at: <http://www.idtechex.com/research/articles/48v-vehicle-systems-becoming-significant-00008266.asp>