

9th International Conference

Automotive 

AUTOMOTIVE POWER SUPPLY SYSTEMS WEEK 2023

E/E Architecture &
Wire Harnessing

High-Voltage &
Power System Reliability

Thermal Management,
Low & Multi-Voltage Power

26th-29th June 2023 • H4 Hotel München Messe, Munich, Germany

Automotive IQ's long running 48V Power Supply Systems conference, returns to Munich after a 4-year hiatus, fully rebranded as the Automotive Power Supply Systems Week 2023!



***Packed with 4-Days of
Technical Content & More
Speakers Than Ever Before***

→ Find Out More

#AutoPowerSupplySystems

www.automotive-iq.com/events-automotive-power-supply-systems-hv-48v-12v

Proudly partnered by:



VICOR

Automotive IQ Welcomes You Back to Automotive Power Supply Systems Week 2023

Automotive IQ is pleased to announce the return of its long running 48V Power Supply Systems conference, returning to Munich after a 4-year hiatus, fully rebranded as the **Automotive Power Supply Systems Week 2023**, to reflect current driving factors, challenges and opportunities, including:

- High Efficiency, High Energy Density and Cost Optimisation
- The Rapid Acceleration Towards High-Voltage Power Supply Systems
- Opportunities to Leverage the Widely Known Safety Benefits of Low-Voltage 48V and 12V Power Supply Systems
- Major OEM goals to guarantee Power Reliability, Redundancy, Capacity and Efficiency
- Technological Advancements in Invertors, DC-DC Converters, Silicon Carbide Technologies & Power Electronics
- Increased Focus on E/E Architectures, & Thermal Management
- Cybersecurity of Electrical & Electronic Components

A conference programme developed in partnership with the people in charge of **Advanced Projects, Power Supply Systems, Power Distribution, E/E Architecture, Advanced Engineer and System Architects**, the Automotive Power Supply Systems Week 2023 will see:

- An open and honest exchange of OEM-led technical use cases and practical solutions to the biggest challenge faced by this vehicle power supply segment.
- OEMs will establish current and future requirements and expectations and align with other vehicle manufacturers, Tier-1 and Tier-2 companies in a non-competitive environment.
- More opportunities to hear hand-on experiences, exchange of ideas and hear about the latest & greatest technology solutions.
- 'Speed Dating' for 1-2-1 interaction between OEM, Tier-1 and Tier-2 Companies
- And more much more!

The Automotive IQ team looks forward to bringing the Power Supply system community together once again for what we guarantee to be our most comprehensive event to date.



Daisy Michelmore
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Preview the 4-Day Agenda at a Quick Glance Packed with More Technical Content Than Ever Before

DAY 1 / 26TH JUNE 2023

Low-Voltage '48V & 12V' Power Supply Systems Technical Presentation, Discussions, Tracks & Roundtables on:

- OEM-LED implementation strategies for 48V
- 48V opportunities in EV > leverage the many advantages of 48V
- What is the future of 48V technology?
- Is there a chance that 12V architecture will be replaced by 48V?

DAY 2 & 3 / 27TH & 28TH JUNE 2023

'High-Voltage' Power Supply Systems Technical Presentation, Discussions, Tracks & Roundtables on:

- Application of high-voltage power systems in the vehicle how are high-voltage levels being managed in vehicles?
- Cutting-edge high-voltage power supply systems
- Maximising the efficiency of power supply systems
- Electronics reliability | Convertor Reliability | Packaging Reliability | Reliability of the Power Grid
- Focus on E/E architecture
- Reimagining e/e architecture to increase availability of power supply
- Redundancy of the power supply for by-wire cars & future vehicles
- Cyber security of E/E components
- Innovative thermal fluids for better thermal dissipation of power units
- How can the industry establish a common power supply standard?
- What can be done to optimise cost of power supply systems
- Current & future capacity and how it will be managed
- Hardware and software technical presentations and discussions
- How to optimise the wire harness space on semiconductor protection
- EV battery technology
- How are companies reducing overall weight of invertors and converters?
- Recyclability & end of life

DAY 4 / 29TH JUNE 2023

Multi-Voltage Power Supply & Interaction Between High & Low-Voltage Power Technical Presentation, Discussions, Tracks & Roundtables on:

- Learn how to effectively manage multiple voltage levels in one vehicle
- Discussions on whether it makes three voltage levels in one vehicle
- Planning for future power supply systems

Previous Event Testimonials

“I am impressed about the technical details given and the domination inside of the event. Covering the correct answers to the questions. It was very valuable to be up to date of future technologies. It has broaden my horizons up to a new level”

Tofaş

“This kind of conference is very important to exchange peer to peer (OEM to OEM) because we can align our understandings. We can see where we can imagine synergies”

Renault

“The topics were more widely spread than I initially expected, which is great. I learned a lot and had a chance to broaden my horizon. This event has been extremely useful and valuable to me, as I got the chance to see challenges of our suppliers and during development, which don't typically come to my attention”

Hyundai Motor Technical Center GmbH

“It provided the opportunity for open discussions on challenging topics during the crucial time in the industry. Good starting point during this revolutionary phase to have discussions directly with supplier on the possible cutting-edge technologies. Time management is usually a key element in these events and it seemed to have been very well managed here”

Volvo Trucks

WHAT TO EXPECT IN 2023

»50+

Hours of Technical Presentations & Discussions

»10+

Hours of Curated Networking Opportunities with Senior Executives

»100+

Senior Power Supply Experts in Attendance



Preview the Expert Speaker Line-up for Automotive Power Supply Systems Week

Check Website for Most Up-to-Date List of Speakers.

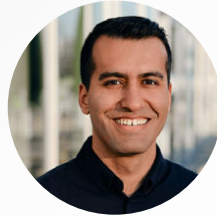
To submit a request to speak at the event, email enquire@automotive-iq.com



Dr. Christian Danz
Vice President of Cross
Product Development
Robert Bosch



Dr. Marc Uhl
Vice President
Engineering
SEG Automotive



Mohammad Abbasi
Power Electronics
Hardware Developer
Volkswagen AG



Waled Elsayed
HV Systems First
Engineer
Volvo Cars



Jelena Andric
Thermal Management
Energy Optimization
Leader
Volvo Group



Bastian Hartmann
Research Engineer,
Advanced Power Supply
and Energy Management
Ford-Werke GmbH



Edwin de Kreij
Senior Systems Architect
Lightyear



Bastien Jovet
Thermal Performance Leader
Hopium



Dr. Ayman Ayad
Expert for Power Electronics
Simulation & System
Engineer for HV Electronics
in Electrified Vehicles
Vitesco Technologies



Philip Brockerhoff
Head of Center of
Competence High Voltage
Systems and Modules
Vitesco Technologies



Wolfgang Wenzel
Senior Technical Specialist
BorgWarner



Richard Dixon, Ph.D.
Senior Principal Analyst,
Automotive Sensors
S&P Global Mobility



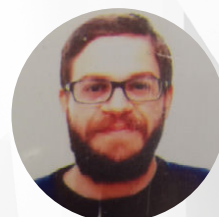
Florian Damrath
Associate Technical Service
& Development Scientist
DOW



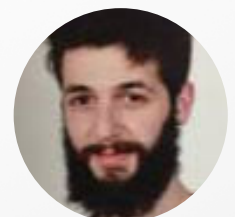
Greg Green
Director of Automotive
Marketing
Vicor



Olaf Wittler
Group Manager Technology
Reliability Simulation
Fraunhofer IZM



Luca Giammichele
Research Fellow
**Università Politecnica
delle Marche**



Dr. Matteo Falone
Research Fellow
**Università Politecnica
delle Marche**

DAY 1 / MONDAY, 26TH JUNE 2023

EXCLUSIVE FOCUS DAY FOR 2023
PRESENTATIONS, DISCUSSION & DIALOGUES ON:
LOW-VOLTAGE '48V AND 12V' POWER SUPPLY SYSTEMS

WHAT TO EXPECT:

- Use case presentations led by OEM and Tier-1 Power Supply experts
- Small group discussions, moderated by key industry professionals
- Group/Panel discussions, for feedback and identifying solutions to challenges facing the power supply systems segment
- Open and honest exchange between experts

8:00 AM - 9:00 AM

REGISTRATION & REFRESHMENTS

9:00 AM - 9:05 AM

AUTOMOTIVE IQ WELCOME & INTRODUCTION

9:05 AM – 9:15 AM

CHAIRPERSON'S OPENING REMARKS

9:15 AM

WHAT IS THE FUTURE OF 48V TECHNOLOGY? INDUSTRY DEBATE ON WHETHER 48V IS 'DYING' OR IF IT WILL REMAIN COMPETITIVE

This industry-led panel sees experts debating a question that is on most minds right now – 'What is the future of 48V technology? Is it dying? If its dying, when will it happen?'

- Join your peers as experts engage in a fact-based dialogue on the future of 48 volts, its place in the vehicle & its potential to replace 12 volts and whether they can be integrated together.
- The panel will also discuss whether the industry will see other hybrid architecture for 48 V other than PO and P1 that are currently have on the market.

Dr. Christian Danz, Vice President of Cross Product Development, **Robert Bosch**

9:50 AM

Question & Answer Session

10:00 AM

OEM-LED IMPLEMENTATION STRATEGY FOR 48V LEARN FOR WHICH ARCHITECTURES AND FOR WHAT PURPOSE 48V IS BEING IMPLEMENTED AND IS PROVING EFFECTIVE

Most people are of the view that 48 volt was a measure to improve the vehicle systems with combustion engines. However, given the many advantages and safety benefits of 48 V, it can bring big measures for the improvement of efficiency in electric and fuel cell vehicles.

This opening presentation zeros in on 48 volt technology and demonstrates through a combination of use case presentations and dialogue how 48V is currently being implemented, and for which architecture and for what purpose.

What will be discussed and what will you learn?

- Understand for what architectures 48 volts is being used
 - Learn for what purpose is 48V being implemented
 - Hybrid architecture for 48 V other than the PO and P1
 - Real world application of 48 volts used for mild hybrid systems
-

10:50 AM

Question & Answer Session

11:00 AM – 11:30AM

MORNING BREAK

Take a few minutes to connect with attendees and get ready for the next session

11:30 AM

SMART 12 VOLT BATTERY TECHNOLOGY

IS THERE A CHANCE THAT 12 VOLT ARCHITECTURE WILL BE REPLACED BY 48 VOLT?

12 Volt batteries are now smart, with highly sophisticated smart fuse boxes. Purely from a technical point of view, there is no advantage to switching from 12 volt to 48 volt. However, the industry is asking some key questions:

'Is there a chance that 48 volts will become a standard in the future with a high volume enough to make them competitive?'

'Could we completely get rid of the 12 volt and only have 48 volts on high-voltage?'

This 12 V focused presentation and subsequent discussion will delve into these questions and more and focus on:

- Current uses and implementation strategies for 12 V systems
- Understanding if there is a chance that 12 V will become a standard in the future with a high enough volume in order to make it competitive
- Economics and capabilities of smart 12 V fuse boxes

12:20 PM

Question & Answer Session

12:30 PM – 1:30 PM

NETWORKING LUNCH BREAK

Network with your peers and colleagues in the seating industry during lunch before we come back for further discussion

1:30 PM

FOCUS DAY NETWORKING ACTIVITIES

Network with your peers in the industry following the Focus Day



DAY 2 / TUESDAY, 27TH JUNE, 2023

FOCUS DAY FOR THE NEXT TWO DAYS

'HIGH-VOLTAGE' POWER SUPPLY SYSTEMS, INCLUDING TECHNICAL PRESENTATION, DISCUSSIONS, TRACKS AND ROUNDTABLES

7:30 AM - 8:45 AM

BREAKFAST AND REFRESHMENTS

8:45 AM - 8:50 AM

AUTOMOTIVE IQ WELCOME & INTRODUCTION

8:50 AM - 9:00 AM

CHAIRPERSON'S OPENING REMARKS

9:00 AM

BREAKFAST BRIEFING

COMPLETE OVERVIEW OF THE POWER SUPPLY SYSTEMS MARKET

LATEST REQUIREMENTS & TRENDS FOR PASSENGER AND COMMERCIAL VEHICLE SEGMENTS

- Electrification trends for the passenger car and commercial vehicle segments of the market
- How companies are evolving their fleets to meet requirements of electrification
- Sharing a roadmap on how the power supply system segment has evolved in the last three years
- Sharing global vehicle electrification targets

Richard Dixon, Ph.D, Senior Principal Analyst, Automotive Sensors, **S&P Global Mobility**

9:30 AM

Question & Answer Session

SECTION ON:

APPLICATION & MANAGEMENT OF HIGH-VOLTAGE POWER SUPPLY SYSTEMS & CUTTING-EDGE HV TECHNOLOGIES

9:40 AM

KEYNOTE PRESENTATION

REDUNDANT AND FAULT-TOLERANT HIGH-VOLTAGE POWER NET FOR FUTURE ELECTRIC VEHICLES

Hear an overview on the new autonomous driving requirements regarding HV power net, HV architecture concepts with redundant power supplies, fault-tolerant power electronic converters for the HV power net, analyses and simulation results.

Dr. Ayman Ayad, Expert for Power Electronics Simulation & System Engineer for HV Electronics in Electrified Vehicles, **Vitesco Technologies**

10:10 AM

Question & Answer Session

10:20 AM

HOW ARE HIGH-VOLTAGE LEVELS BEING MANAGED IN VEHICLES?

HV USE CASES SHOWCASING CONFIGURATIONS OFFERING OPTIMAL EFFICIENCY, ENERGY DENSITY & LOWEST THERMAL DISSIPATION

- Comparing different HV configurations using efficiency, density and thermal dissipation as main criteria
- Establishing configurations that are offering the highest levels of efficiency and lowest risk of thermal runaway
- Wire harness and devices used for high-voltage
- Cost and capabilities of invertors that are high-voltage and allow for less power losses
- Establishing where it makes to put vehicles on high-voltage and where 12 V is effective

Mohammed Abbasi, Power Electronics Hardware Developer, **Volkswagen AG**

10:50 AM

Question & Answer Session

11:00 AM

CUTTING-EDGE HIGH-VOLTAGE POWER SUPPLY SYSTEMS COMPARING COST, CAPABILITIES AND CAPACITIES OF THE LATEST HV TECHNOLOGIES

The future of vehicle electrification is undoubtedly high-voltage. And this will only be enabled by technologies that will make vehicles more efficient, power dense and cost-effective.

This section focuses on the perennial favourite topic of new technologies, giving OEMs the chance to understand what HV technologies exists, and what is new and cutting-edge.

The **first half** of this section will see technology providers sharing customer case studies, focusing on cost, capabilities, and capacities.

SILICON CARBIDE TECHNOLOGY | SEMICONDUCTOR TECHNOLOGIES IPO WER ELECTRONICS DC-DC CONVERTERS | POWER MODULES | FUTURE TRENDS IN INVERTORS

The **second half** will present 'speed dating' opportunities between OEMs, Tier-1s and various suppliers for 5-10 minutes a piece, with the goal of effectively triaging what that supplier's message is and allocate them to the appropriate people in the organisation to further investigate the relationship.

Greg Green, Director of Automotive Marketing, **Vicor**

11:30 AM

Question & Answer Session

11:40 AM-12 PM
MORNING BREAK

SECTION ON TWO OF THE BIGGEST DRIVERS: EFFICIENCY & RELIABILITY

12:00 PM

MAXIMISING THE EFFICIENCY OF POWER SUPPLY SYSTEMS MEASURES TO REDUCE THE ELECTRICAL CONSUMPTION OF THE SYSTEMS AND REQUIREMENTS TO THE CORRESPONDING SYSTEMS ON THE OTHER SIDE

- Understand the obstacles to reaching maximum power efficiency
- What needs to change to have a better power consumption
- Share methods to improve vehicle range and reduce watt wastage

Wolfgang Wenzel, Senior Technical Specialist, **BorgWarner**

12:30 PM

Question & Answer Session

12:40 PM – 1:40 PM
NETWORKING LUNCH & VISIT THE EXHIBITORS

1:40 PM

TECHNICAL DISCUSSION GROUPS ON WAYS TO ENSURE ELECTRONICS RELIABILITY | CONVERTOR RELIABILITY | PACKAGING RELIABILITY | RELIABILITY OF THE POWER GRID

When we talk about electric vehicles, there's a huge focus on efficiency and reliability. And this is not limited to the reliability of the power supply network and the grid, but all the different electronics and components.

This section of the agenda sees industry experts leading smaller interactive discussion groups on how to guarantee reliability in the convertor, electronics, packaging, and the grid.

- 1. Electronics Reliability:** How can we protect power supply against a failure?
- 2. Convertor Reliability:** How you we make converters more reliable, electrically, or thermally?
- 3. Packaging:** How we can package power supplies and make them more reliable?
- 4. Reliability Of Power Grids:** What can be done guarantee the reliability of power grids, now and in the future?

2:10 PM

Question & Answer Session

**SECTION DEDICATED TO:
TECHNICAL PRESENTATIONS AND DISCUSSION ON E/E ARCHITECTURE
AND REDUNDANCY OF POWER SUPPLY**

2:20 PM

FOCUS ON E/E ARCHITECTURE

ASSESS DIFFERENT KINDS OF ARCHITECTURES & HYBRIDIZATION SYSTEMS

- Vehicle centralisation of high-level functions
- Impact on in-vehicle Communication Networks
- Power distribution Network based on iFuses and 3-Voltage Networks
- Complexity reduction in future E/E-architecture by zone-architectures

Edwin de Kreijl, Senior Systems Architect, **Lightyear**

2:50 PM

Question & Answer Session

3:00 PM

REDUNDANCY OF THE POWER SUPPLY FOR BY-WIRE CARS & FUTURE VEHICLES

OPTIMISE THE USE OF BACK UP POWER SUPPLY IN CASE OF A FAILURE MODE

- Assess best practices that are being used for power supply redundancies for by-wire cars
 - Assess whether there is a need to have diversity of voltages
 - Establishing the optimal voltage level
 - Hear approaches and solutions from solutions on power supply redundancies
-

3:30 PM

Question & Answer Session

3:40 PM – 4:10 PM
AFTERNOON BREAK

**SECTION FOCUSING ON:
THERMAL MANAGEMENT AND CYBER SECURITY OF E/E COMPONENTS**

4:10 PM

HOW TO DEVELOP HIGH QUALITY & LOW-COST EXCHANGERS TO CONTROL THE THERMAL PERFORMANCE OF CELLS WITHOUT IMPACTING POWER

PANEL DISCUSSION LED BY OEM AND TIER-1 EXPERTS

Electric vehicles are built with great power and thermal management is one of the most important things for 48 V or 800 V. The higher the power of the vehicle, the stronger inverter you need, it will generate more heat. Therefore, the biggest challenge for the OEM is heat management of these devices.

Join this panel discussion from thermal management experts as they discuss:

- Ways in which companies are trying to maximise thermal cooling of the unit
- What Tier- 1 & Tier- 2 suppliers are working on to improve thermal efficiency
- Case Studies demonstrating the latest thermal management concepts.
- Success stories from OEMs for efficient heat dissipation
- How companies are optimising their designs and modifying their cooling systems to meet thermal management requirements

Bastien Jovet, Thermal Performance Leader, **Hopium**

Jelena Andric, Thermal Management Energy Optimisation Leader, **Volvo Group**

4:40 PM

Question & Answer Session

4:50 PM

INNOVATIVE THERMAL FLUIDS FOR BETTER THERMAL DISSIPATION OF POWER UNITS VENDOR/TECHNOLOGY PROVIDER PRESENTATION

- Alternatives to air & liquid cooling
- How to reduce the overall weight of these systems
- New innovations for direct cooling methods
- New techniques for managing thermal power peaks

To discuss speaking opportunities, please send an email to partner@automotive-iq.com

5:20 PM

Question & Answer Session

5:30 – 5:45 PM

CHAIRPERSON'S CLOSING REMARKS

6:00 PM – 7:15 PM

ON-SITE DRINKS RECEPTIONS HOSTED BY AUTOMOTIVE IQ



DAY 3 / WEDNESDAY, 28TH JUNE 2023

FOCUS DAY FOR THE DAY

'HIGH-VOLTAGE' POWER SUPPLY SYSTEMS, INCLUDING TECHNICAL PRESENTATION, DISCUSSIONS, TRACKS AND ROUNDTABLES

7:30 AM - 8:45 AM

BREAKFAST AND REFRESHMENTS

8:45 AM- 8:50 AM

AUTOMOTIVE IQ WELCOME & INTRODUCTION

8:50 AM – 9:00 AM

CHAIRPERSON'S OPENING REMARKS

**SECTION DEDICATED TO:
TECHNICAL PRESENTATIONS AND DISCUSSION ON STANDARDISATION,
COST AND CAPACITY OPTIMISATION**

9:00 AM

STANDARDISATION BREAKFAST DISCUSSION

HOW CAN THE INDUSTRY ESTABLISH A COMMON POWER SUPPLY STANDARD?

Where the industry is right here right now, different OEMS are utilising different voltage levels, different kind of architectures and different hybridisation systems, but there is no visible standardisation. Multiple approaches currently exist and compete with one another – there is no real standard.

For the industry to overcome the key challenge of cost optimisation and for it to have some form of volume effect, there will need be some form of standardisation.

In this section, the room will break up into roundtable groups and discuss practical steps that can be taken to work towards a common standard for power supply systems for different vehicle types, EVs and beyond.

Philip Brockerhoff, Head of Center of Competence High Voltage Systems and Modules, **Vitesco Technologies**

9:30 AM

Question & Answer Session

9:40 AM

KEYNOTE PANEL

WHAT CAN BE DONE TO OPTIMISE COST OF POWER SUPPLY SYSTEMS

COST-EFFECTIVE POWER SUPPLY SYSTEMS & SOLUTIONS

- Discussing practical measures to reduce the cost of high-voltage systems
- Assessing the value of standardisation in having a volume effect and resultantly bringing cost down
- Low-cost architectures
- Examining the cost of all components to see where cost reduction opportunities can be found

Bastian Hartmann, Research Engineer, Advanced Power Supply and Energy Management, **Ford-Werke GmbH**

10:10 AM

Question & Answer Session

10:20 AM

CURRENT & FUTURE CAPACITY AND HOW IT WILL BE THE MANAGED **UNDERSTAND WHAT CAN BE DONE TO GUARANTEE CAPACITY IN THE FUTURE**

Power Electronics, Semiconductors, and Silicon Carbide will present big challenges in the present and in the future. But they will also be key for any OEM to understand what the capacity will be, how will it be managed and what can be done to increase capacity.

More than guaranteeing the best technology, OEMs are looking for a guaranteed capacity. Right now, they are not confident that they have the capacity for these components.

This sections zero in the on this important technical area, with power supply experts and people responsible for business strategy discussing:

- Current capacity and future requirements and how will it be managed
- Future plans for new manufacturing and how do OEMs plan to choose supply for different regions
- Measures that can be taken right now to improve capacity in the future
- What can be done to guarantee capacity in the future

10:50 AM

Question & Answer Session

11:00 AM– 11:30 AM
MORNING BREAK

11:30 AM – 12 PM

SOFTWARE DEVELOPMENT **FOR POWER SUPPLY SYSTEMS**

What will be discussed:

- How to write and develop software
- The process landscape around how tool chains are built
- The ASPICE compatibility and conformity

Dr. Marc Uhl, Vice President Engineering, **SEG Automotive**

SECTION DEDICATED TO:
TECHNICAL PRESENTATIONS AND DISCUSSION ON WIRE HARNESS,
CABLES AND BATTERY TECHNOLOGIES

12:10 PM

HOW TO OPTIMISE THE WIRE HARNESS SPACE ON SEMICONDUCTOR PROTECTION **PRACTICAL APPROACHES TO RELEARN HOW TO OPTIMIZE THE WIRE HARNESS**

The industry has currently gained great knowledge on how to optimize the wire harness space on the fuse protection. However, now everything is gone in the direction of the functional safety, and they must remove more or less all fuses.

What this in turn means is that power supply experts must relearn how to optimize the wire harness space on the semiconductor protection. This is a big topic and challenge for the industry right now and suppliers are seeing more and more OEMs asking for support in this area.

This presentation demonstrates step-by-step how to optimize the wire harness space.

- Understand what types of conductors are used
- Sharing methods to route the wire harness into the vehicle
- Find out what type of protection is used for the wire harness in the vehicle

12:40 PM

Question & Answer Session

12:50 PM

FUTURE DEVELOPMENTS IN WIRES AND BUSBAR CABLES **EXAMINING NEW TRENDS AND STRATEGIES**

- Debating if busbar style cables will continue to be used along with wires
- Are busbar cables really going to be the future?
- Discussing if there are any strategies that are different than just reducing wires that we are using
- Alternative material strategies that can be used in aluminium or nickel copper wires

To discuss speaking opporunities, please send an email to partner@automotive-iq.com

1:20 PM

Question & Answer Session

1:20 PM – 2:20 PM

NETWORKING LUNCH & VISIT THE EXHIBITORS

2:20 PM

EV BATTERY TECHNOLOGY

WHERE THE INDUSTRY HEADING WITH ALTERNATIVES TO LITHIUM IRON BATTERIES

- Sharing current trends in EV battery technology
- Discussing the uses of lithium iron for battery technology
- Examining alternatives to conventional lithium batteries
- Discuss extreme solutions with very high-power output and how they can then compete with high-voltage systems.

Luca Giammichele, Research Fellow, **Università Politecnica delle Marche**

Dr. Matteo Falone, Research Fellow, **Università Politecnica delle Marche**

2:50 PM

Question & Answer Session

3:00 PM – 3:30 PM

AFTERNOON BREAK

SECTION FOCUSING ON:

WEIGHT REDUCTION, ENERGY DENSITY & RECYCLABILITY

3:30 PM

HOW ARE COMPANIES REDUCING OVERALL WEIGHT OF INVERTORS AND CONVERTER? ELECTRONIC PACKAGING TO ENSURE THE POWER SUPPLY SYSTEM IS AS COMPACT & LIGHTWEIGHT AS POSSIBLE

In industry such as the automotive, that counts weight addition to the gram, new developments to materials are not only welcomed but necessary and play a critical role. This weight management presentation and presentation takes a deep dive into how companies are trying to reduce the overall weight.

What will be discussed:

- Find out how by choosing different materials companies are optimizing the design to get it as small as possible
- Design modifications that are being implemented to ensure that their unit is as compact and lightweight as possible
- Discuss if switching to copper instead of aluminium is an effective strategy for reducing weight of invertors and converter
- How are electronic packaging constraints being met
- What's the future for making invertors and converters lighter than they are right now

Florian Damrath, Associate Technical Service & Development Scientist, **DOW**

4:00 PM

Question & Answer Session

4:10 PM

RECYCLABILITY & END OF LIFE

DISCUSSION ON WHAT CAN BE DONE WITH POWER SUPPLY SYSTEMS WHEN THEY COME TO THEIR END OF LIFE IN THE VEHICLE

- Discussing ways to extend the life from power supply from 1-3 years to higher
- Understand what is currently being done when power supply systems come to the end of their life
- What are suppliers strategies for the end of lifecycle to help meet sustainability goals

4:40 PM

Question & Answer Session

4:50 PM

CHAIRPERSON'S CLOSING REMARKS

5:00 PM

END OF 2023 CONFERENCE

DAY 4 / THURSDAY, 29TH JUNE 2023

EXCLUSIVE FOCUS DAY FOR 2023

PRESENTATIONS, DISCUSSION & DIALOGUES ON:

MULTI-VOLTAGE POWER SUPPLY & INTERACTION BETWEEN HIGH & LOW-VOLTAGE POWER

WHAT TO EXPECT:

- Use case presentations led by OEM and Tier-1 Power Supply experts
- Small group discussions, moderated by key industry professionals
- Group/Panel discussions, for feedback and identifying solutions to challenges facing the power supply systems segment
- Open and honest exchange between experts

8:00 AM - 9:00 AM

REGISTRATION & REFRESHMENTS

9:05 AM – 9:15 AM

OPENING REMARKS

9:15 AM

**COMPLEXITY & DIVERSITY OF DIFFERENT VOLTAGE LEVELS IN THE SAME VEHICLE
LEARN HOW TO EFFECTIVELY MANAGE MULTIPLE VOLTAGE LEVELS IN ONE VEHICLE**

- Best practices to optimise the usage of different voltages in the same vehicle
- Lessons learned on how to manage multiple voltage levels in one vehicle
- Understand the interaction between high & low-voltage power supply
- Debating if, when and where it makes sense to consolidate high and low voltages

10:15 AM

Question & Answer Session

10:30 AM – 11:00AM

MORNING BREAK

11:00 AM

**DOES IT MAKE SENSE TO HAVE 3 VOLTAGE LEVELS?
DISCUSSIONS ON WHETHER IT MAKES THREE VOLTAGE LEVELS IN ONE VEHICLE**

- Engage in an active discussion with you peers to determine if using three volts – 12 volts plus 48 volts plus 400/800 volts in one vehicle is necessary.
- Knowledge and idea sharing to optimise the number of voltages to achieve greater efficiency
- Compare the pros and cons of using one or more voltages
- Sharing thoughts on what the future of multi-volt technology will be and where the industry will go from here

11:50 AM

Question & Answer Session

12:00 PM

PLANNING FOR FUTURE POWER SUPPLY SYSTEMS

ESTABLISHING UPCOMING REQUIREMENTS TO IMPLEMENT THE FLEXIBILITY THAT WILL BE NEEDED FOR ARCHITECTURES IN THE FUTURE

- Discussing how the industry will create a better, more efficient power supply system in the future
- Sharing OEM future requirements and expectations for power supply systems
- Sharing upcoming technology trends from component suppliers
- Establishing what the industry needs to do as a whole to achieve future expectation and goals

12:50 PM

Question & Answer Session

1:00 PM – 2 PM

LUNCH BREAK

2:00 PM – 3 PM

END OF CONFERENCE



Multiple Registration Options Available - Attend 1, 2, 3 or All 4 Days

STANDARD PRICE	Early Spring Discount Ends 31st March	Easter Discount Ends 28th April	Late Spring Discount Ends 26th May	Full Rate From 27th May
<input type="radio"/> Full Conference 4-Day Pass Access to, High-Voltage, Low-Voltage & Multi-Voltage Days	€4199	€4299	€4399	€4499
<input type="radio"/> 3-Day Conference Pass Access to High-Voltage Days + Low-Voltage OR Multi-Voltage Days	€3599	€3699	€3799	€3899
<input type="radio"/> 2-Day Pass Access to High-Voltage Conference only	€2699	€2799	€2899	€2999
<input type="radio"/> 1-Day Pass Access to Low-Voltage Day only	€1399	€1499	€1599	€1699
<input type="radio"/> 1-Day Pass Access to Multi-Voltage Day only	€1399	€1499	€1599	€1699

AUTOMAKERS	Early Spring Discount Ends 31st March	Easter Discount Ends 28th April	Late Spring Discount Ends 26th May	Full Rate From 27th May
<input type="radio"/> Full Conference 4-Day Pass Access to, High-Voltage, Low-Voltage & Multi-Voltage Days	€3599	€3699	€3799	€3899
<input type="radio"/> 3-Day Conference Pass Access to High-Voltage Days + Low-Voltage OR Multi-Voltage Days	€2799	€2899	€2999	€3099
<input type="radio"/> 2-Day Pass Access to High-Voltage Conference only	€1999	€2099	€2199	€2299
<input type="radio"/> 1-Day Pass Access to Low-Voltage Day only	€1099	€1199	€1299	€1399
<input type="radio"/> 1-Day Pass Access to Multi-Voltage Day only	€1099	€1199	€1299	€1399

Please note: All 'Early Bird' discounts require payment at time of registration and before the cut-off date in order to receive any discount. Any discounts offered (including team discounts) must also require payment at the time of registration. All discount offers cannot be combined with any other offer. Deadlines for payment can be found on the event website.

DELEGATE DETAILS - SIMPLY COMPLETE THIS FORM, SCAN AND SEND TO US

Mr Mrs Miss Ms Dr Other

First Name

Last Name Job Title

Tel No. Incl. country code

Email

Yes I would like to receive information about products and services via email

Point of contact

Organisation

Nature of business

Address

Postcode Country

Telephone

Fax

Approving Manager

Please note: if you have not received an acknowledgement before the conference, please call us to confirm your booking.

Name of person completing form if different from delegate

I agree to IQPC's cancellation, substitution and payment terms

Special dietary requirements: Vegetarian Non-dairy Other (please specify)

Please indicate if you have already registered by: Phone Fax Email Web

(Please quote 40662.001 with remittance advice)

Account name: IQPC Ltd Bank: HSBC Account number: 68882491 Sort code: 40 12 76 IBAN: GB67HBUK40127668882491

SWIFT: HBUKGB4BXXX Bank: HSBC UK Bank PLC 1 CENTENARY SQUARE, BIRMINGHAM, B1 1HQ, United Kingdom.

VENUE & ACCOMMODATION

H4 HOTEL MÜNCHEN MESSE, KONRAD-ZUSE-PLATZ 14, 81829 MÜNCHEN, GERMANY

TERMS AND CONDITIONS

Please read the information listed below as each booking is subject to IQPC Ltd standard terms and conditions.

Payment Terms: Upon completion and return of the registration form full payment is required no later than 5 business days from the date of invoice. Payment of invoices by means other than by credit card, or purchase order (UK Plc and UK government bodies only) will be subject to a \$99 (plus VAT) per delegate processing fee. Payment must be received prior to the conference date. We reserve the right to refuse admission to the conference if payment has not been received.

IQPC Cancellation, Postponement and Substitution Policy:
You may substitute delegates at any time by providing reasonable advance notice to IQPC.

For any cancellations received in writing not less than eight (8) days prior to the conference, you will receive a 90% credit to be used at another IQPC event to be mutually agreed with IQPC, which must occur within one year from the date of cancellation. An administration fee of 10% of the contract fee will be retained by IQPC for all permitted cancellations. No credit will be issued for any cancellations occurring within seven (7) days (inclusive) of the conference.

In the event that IQPC cancels an event for any reason, you will receive a credit for 100% of the contract fee paid. You may use this credit for another IQPC event to be mutually agreed with IQPC, which must occur within one year from the date of postponement.

In the event that IQPC postpones an event for any reason and the delegate is unable or unwilling to attend in on the rescheduled date, you will receive a credit for 100% of the contract fee paid. You may use this credit for another IQPC event to be mutually agreed with IQPC, which must

occur within one year from the date of postponement.

Except as specified above, no credits will be issued for cancellations. There are no refunds given under any circumstances.

IQPC is not responsible for any loss or damage as a result of a substitution, alteration or cancellation/postponement of an event. IQPC shall assume no liability whatsoever in the event this conference is cancelled, rescheduled or postponed due to a fortuitous event, Act of God, unforeseen occurrence or any other event that renders performance of this conference impracticable, illegal or impossible. For purposes of this clause, a fortuitous event shall include, but not be limited to: war, fire, labor strike, extreme weather or other emergency.

Please note that while speakers and topics were confirmed at the time of publishing, circumstances beyond the control of the organizers may necessitate substitutions, alterations or cancellations of the speakers and/or topics. As such, IQPC reserves the right to alter or modify the advertised speakers and/or topics if necessary without any liability to you whatsoever. Any substitutions or alterations will be updated on our web page as soon as possible.

Discounts: All 'Early Bird' Discounts must require payment at time of registration and before the cut-off date in order to receive any discount. Any discounts offered whether by IQPC (including team discounts) must also require payment at the time of registration.

All discount offers cannot be combined with any other offer.

Please do not pass my information to any third party