### **Track 3** Day 2 - Wednesday 8 May Flectric & Hybrid Vehicle Technology

| Industration value (kearby, Principal Analysis, Power rechnology Research       Image: Content of a Powershiftable Two-Speed Electric Drive Unit for High-Performance Applications         Chris Hilton, Chief Technology Officer, Protean Electric       Drive Motors in Future Transportation         Han-Hein Spit, Vice President, Bosch Transmission Technology B.V.       Evaluating the Potential of CVT Technology in Improving Electrified Powertrains         10:30       Networking Break: Coffee & Refreshments in the Foyer         11:00       E-Motor Developments: Latest Developments In E-Motors and Powertrain Design Including; Alternatives to Rare Earth Magnets, Axial Flux Motor Technology and Thermal Management         Moderator Jared Kearby, Principal Analyst, Power Technology Research       Improve Magnet         Motor Topology Selection for Electric Vehicles       Dalimiter         Quentin Werner, Electric Machine Design Engineer, Daimler       Determining the Optimum Rotor-Topology for Electric Drives         Michael Lampérth, CEO, Phi-Power       Examining the Latest Developments in and the Potential of Axial Flux Motor Technology         Peter van Duijsen, Researcher, TU Defit       Simulating Thermal Management for E-Motors and Power Electronics         12:30       Networking Lunch & Opportunity to Take Advantage of Activities on Show Eloor         14:00       Powertrain Efficiency: Evaluating the Different Techniques for Improving the Electric Powertrain         Moderator/Speaker Robert Stanek, Lead Electric Powertrain and Cost Management, P3 Group       Gro   | Electric<br>Moderate<br>Gereon H<br>Outlining<br>Unit for H<br>Chris Hilt<br>The Role<br>Han-Hein<br>Evaluation<br>10:30<br>11:00 E-Motor<br>Includin<br>Thermat<br>Moderate<br>Christian<br>Motor To<br>Quentin V<br>Determin<br>Michael L<br>Examinin<br>Motor Te | Vehicle Efficiency and Meet Customer Demands<br>or Jared Kearby, Principal Analyst, Power Technology Research<br>ellenbroich, Department, Manager, Transmission Design and CAE, FEV Europe GmbH<br>the Development of a Powershiftable Two-Speed Electric Drive<br>digh-Performance Applications<br>on, Chief Technology Officer, Protean Electric<br>of In-Wheel Motors in Future Transportation<br>Spit, Vice President, Bosch Transmission Technology B.V.<br>og the Potential of CVT Technology in Improving Electrified Powertrains<br>Networking Break: Coffee & Refreshments in the Foyer<br>Developments: Latest Developments In E-Motors and Powertrain Design<br>to: Alternatives to Rare Earth Magnets, Axial Flux Motor Technology and<br>Management<br>or Jared Kearby, Principal Analyst, Power Technology Research<br>Pronovost, Sr. Product Manager, Dana Incorporated<br>pology Selection for Electric Vehicles |  |
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| Industrator safed Kearby, Principal Analysis, Power Rechnology Research       Image: Comparison of the Constraint of         | Gereon H<br>Outlining<br>Unit for H<br>Chris Hilt<br>The Role<br>Han-Hein<br>Evaluation<br>10:30<br>11:00 E-Motor<br>Includin<br>Thermat<br>Moderate<br>Christian<br>Motor To<br>Quentin V<br>Determin<br>Michael L<br>Examinin<br>Motor Te                         | ellenbroich, Department, Manager, Transmission Design and CAE, FEV Europe GmbH<br>the Development of a Powershiftable Two-Speed Electric Drive<br>High-Performance Applications<br>on, Chief Technology Officer, Protean Electric<br>of In-Wheel Motors in Future Transportation<br>Spit, Vice President, Bosch Transmission Technology B.V.<br>ag the Potential of CVT Technology in Improving Electrified Powertrains<br>Networking Break: Coffee & Refreshments in the Foyer<br>Developments: Latest Developments In E-Motors and Powertrain Design<br>ag; Alternatives to Rare Earth Magnets, Axial Flux Motor Technology and<br>I Management<br>or Jared Kearby, Principal Analyst, Power Technology Research<br>Pronovost, Sr. Product Manager, Dana Incorporated<br>pology Selection for Electric Vehicles  |  |
| Outlining the Development of a Powershiftable Two-Speed Electric Drive<br>Unit for High-Performance Applications       Image: Control of the Speed Electric Drive<br>Unit for High-Performance Applications         Dris Hilton, Chief Technology Officer, Protean Electric<br>The Role of In-Wheel Motors in Future Transportation       Image: Control of the Speed Electric Drive Speed Elect                                   | Outlining<br>Unit for H<br>Chris Hilt<br>The Role<br>Han-Hein<br>Evaluation<br>10:30<br>11:00<br>E-Motor<br>Includin<br>Thermal<br>Moderate<br>Christian<br>Motor To<br>Quentin V<br>Determin<br>Michael L<br>Examinin<br>Motor Te                                  | the Development of a Powershiftable Two-Speed Electric Drive<br>digh-Performance Applications<br>on, Chief Technology Officer, Protean Electric<br>of In-Wheel Motors in Future Transportation<br>Spit, Vice President, Bosch Transmission Technology B.V.<br>og the Potential of CVT Technology in Improving Electrified Powertrains<br>Networking Break: Coffee & Refreshments in the Foyer<br>Developments: Latest Developments In E-Motors and Powertrain Design<br>ag; Alternatives to Rare Earth Magnets, Axial Flux Motor Technology and<br>Management<br>or Jared Kearby, Principal Analyst, Power Technology Research<br>Pronovost, Sr. Product Manager, Dana Incorporated<br>pology Selection for Electric Vehicles  | PROTEAN<br>Decision de Technology                          |
| The Role of In-Wheel Motors in Future Transportation       Intervention         Han-Hein Spit, Vice President, Bosch Transmission Technology B.V.       Evaluating the Potential of CVT Technology in Improving Electrified Powertrains         10:30       Networking Break: Coffee & Refreshments in the Foyer         11:00       E-Motor Developments: Latest Developments In E-Motors and Powertrain Design Including; Alternatives to Rare Earth Magnets, Axial Flux Motor Technology and Thermal Management         Moderator Jared Kearby, Principal Analyst, Power Technology Research       Improvements in the Potential of Axial Flux Motor Technology and Thermal Management         Moderator Jared Kearby, Principal Analyst, Power Technology Research       Improvements in the Potential of Axial Flux Motor Technology         Motor Topology Selection for Electric Vehicles       Ouentin Werner, Electric Machine Design Engineer, Daimler         Determining the Latest Developments in and the Potential of Axial Flux Motor Technology       Poter van Duijsen, Researcher, TU Delft         Simulating Thermal Management for E-Motors and Power Electronics       Improving the Energy Efficiency: Evaluating the Different Techniques for Improving the Energy Efficiency of The Electric Powertrain       Improving group         14:00       Powertrain Efficiency: Evaluating the Different Techniques for Improving the Energy Efficiency of The Electric Powertrain and Cost Management, P3 Group       Improving Senter Adventage of Activities on Show Floor         14:00       Regretaria, Global Electrification Services Leader, HORIBA MIRA The Development o   | The Role<br>Han-Hein<br>Evaluation<br>10:30<br>11:00<br>E-Motor<br>Includin<br>Thermal<br>Moderate<br>Christian<br>Motor To<br>Quentin V<br>Determin<br>Michael L<br>Examinin<br>Motor Te   | of In-Wheel Motors in Future Transportation<br>Spit, Vice President, Bosch Transmission Technology B.V.<br>Ig the Potential of CVT Technology in Improving Electrified Powertrains<br>Networking Break: Coffee & Refreshments in the Foyer<br>Developments: Latest Developments In E-Motors and Powertrain Design<br>Ig; Alternatives to Rare Earth Magnets, Axial Flux Motor Technology and<br>I Management<br>or Jared Kearby, Principal Analyst, Power Technology Research<br>Pronovost, Sr. Product Manager, Dana Incorporated<br>pology Selection for Electric Vehicles   | $\widehat{Pr}_{b} \xrightarrow{Power Technology} Research$ |
| Evaluating the Potential of CVT Technology in Improving Electrified Powertrains         Including: Alternatives to Rare Earth Magnets, Axial Flux Motor Technology and Thermal Management         Including: Alternatives to Rare Earth Magnets, Axial Flux Motor Technology and Thermal Management         Moderator Jared Kearby, Principal Analyst, Power Technology Research       Image: Colspan="2">Comment: Education of the Electric Vehicles         Outer Topology Selection for Electric Vehicles       Image: Colspan="2">Quentin Werner, Electric Machine Design Engineer, Daimler         Determining the Optimum Rotor-Topology for Electric Drives       DAIMLER         Michael Lampérth, CEO, Phi-Power       Examining the Latest Developments in and the Potential of Axial Flux Motor Technology         Peter van Duijsen, Researcher, TU Delft       Simulating Thermal Management for E-Motors and Power Electronics         14:00       Powertrain Efficiency: Evaluating the Different Techniques for Improving the Energy Efficiency of The Electric Powertrain         Moderator/Speaker Robert Stanek, Lead Electric Powertrain and Cost Management, P3 Group       P3 group         Greg Harris, Global Electrification Services Leader, HORIBA MIRA       P4         The Development of Efficient Electric Powertrains       Johan Vanhuyse, Research & Application Engineer, Siemens Industry Software   | Evaluation<br>10:30<br>11:00<br>E-Motor<br>Includin<br>Thermal<br>Moderate<br>Christian<br>Motor To<br>Quentin V<br>Determin<br>Michael L<br>Examinin<br>Motor Te   | And the Potential of CVT Technology in Improving Electrified Powertrains<br>Networking Break: Coffee & Refreshments in the Foyer<br>Developments: Latest Developments In E-Motors and Powertrain Design<br>ag; Alternatives to Rare Earth Magnets, Axial Flux Motor Technology and<br>I Management<br>or Jared Kearby, Principal Analyst, Power Technology Research<br>Pronovost, Sr. Product Manager, Dana Incorporated<br>pology Selection for Electric Vehicles   | J <sup>rr</sup> <sup>R</sup> L Research                    |
| <ul> <li>11:00 E-Motor Developments: Latest Developments In E-Motors and Powertrain Design<br/>Including: Alternatives to Rare Earth Magnets, Axial Flux Motor Technology and<br/>Thermal Management</li> <li>Moderator Jared Kearby, Principal Analyst, Power Technology Research</li> <li>Christian Pronovost, Sr. Product Manager, Dana Incorporated<br/>Motor Topology Selection for Electric Vehicles</li> <li>Quentin Werner, Electric Machine Design Engineer, Daimler</li> <li>Determining the Optimum Rotor-Topology for Electric Drives</li> <li>Michael Lampérth, CEO, Phi-Power</li> <li>Examining the Latest Developments in and the Potential of Axial Flux<br/>Motor Technology</li> <li>Peter van Duijsen, Researcher, TU Delft</li> <li>Simulating Thermal Management for E-Motors and Power Electronics</li> <li>14:00 Powertrain Efficiency: Evaluating the Different Techniques for Improving<br/>the Energy Efficiency of The Electric Powertrain</li> <li>Moderator/Speaker Robert Stanek, Lead Electric Powertrain and Cost Management,<br/>P3 Group</li> <li>Greg Harris, Global Electrification Services Leader, HORIBA MIRA<br/>The Development of Efficient Electric Powertrains</li> <li>Johan Vanhuyse, Research &amp; Application Engineer, Siemens Industry Software</li> <li>Constraint Efficiency: Evaluation Engineer, Siemens Industry Software</li> </ul>  | 11:00 E-Motor<br>Includin<br>Thermal<br>Moderate<br>Christian<br>Motor To<br>Quentin V<br>Determin<br>Michael L<br>Examinin<br>Motor Te   | Developments: Latest Developments In E-Motors and Powertrain Design<br>ag; Alternatives to Rare Earth Magnets, Axial Flux Motor Technology and<br>Management<br>or Jared Kearby, Principal Analyst, Power Technology Research<br>Pronovost, Sr. Product Manager, Dana Incorporated<br>pology Selection for Electric Vehicles   | J <sup>rr</sup> <sup>R</sup> L Research                    |
| Including; Alternatives to Rare Earth Magnets, Axial Flux Motor Technology and Thermal Management       Import Mathematical Magnets, Power Technology Research         Moderator Jared Kearby, Principal Analyst, Power Technology Research       Import Mathematical Magnets, Power Technology Research         Christian Pronovost, Sr. Product Manager, Dana Incorporated       Import Mathematical Magnets, Power Technology Research         Motor Topology Selection for Electric Vehicles       Import Mathematical Magnets, Power Technology Research         Quentin Werner, Electric Machine Design Engineer, Daimler       Import Mathematical Magnets, Power         Determining the Optimum Rotor-Topology for Electric Drives       Import Mathematical Magnets, Mathematical Magnets, Mathematical Science, Power         Michael Lampérth, CEO, Phi-Power       Import Researcher, TU Delft       Import Management for E-Motors and Power Electronics         Simulating Thermal Management for E-Motors and Power Electronics       Import Deleft         12:30       Networking Lunch & Opportunity to Take Advantage of Activities on Show Floor         14:00       Powertrain Efficiency: Evaluating the Different Techniques for Improving the Energy Efficiency of The Electric Powertrain         Moderator/Speaker Robert Stanek, Lead Electric Powertrain and Cost Management, P3 Group       Import Powertrain         Greg Harris, Global Electrification Services Leader, HORIBA MIRA       Import Powertrain         The Development of Efficient Electric Powertrains       Import Powertrain </th <th>Includin<br/>Thermal<br/>Moderate<br/>Christian<br/>Motor To<br/>Quentin V<br/>Determin<br/>Michael L<br/>Examinin<br/>Motor Te</th> <th>ag; Alternatives to Rare Earth Magnets, Axial Flux Motor Technology and<br/>I Management<br/>or Jared Kearby, Principal Analyst, Power Technology Research<br/>Pronovost, Sr. Product Manager, Dana Incorporated<br/>pology Selection for Electric Vehicles</th> <th>J<sup>rr</sup><sup>R</sup>L Research</th> | Includin<br>Thermal<br>Moderate<br>Christian<br>Motor To<br>Quentin V<br>Determin<br>Michael L<br>Examinin<br>Motor Te  | ag; Alternatives to Rare Earth Magnets, Axial Flux Motor Technology and<br>I Management<br>or Jared Kearby, Principal Analyst, Power Technology Research<br>Pronovost, Sr. Product Manager, Dana Incorporated<br>pology Selection for Electric Vehicles  | J <sup>rr</sup> <sup>R</sup> L Research                    |
| Moderator Jared Kearby, Principal Analyst, Power Technology Research       International Content of Con         | Christian<br>Motor To<br>Quentin V<br>Determin<br>Michael L<br>Examinin<br>Motor Te   | Pronovost, Sr. Product Manager, Dana Incorporated<br>pology Selection for Electric Vehicles  | J <sup>rr</sup> <sup>R</sup> L Research                    |
| Motor Topology Selection for Electric Vehicles       Image: Comparison of the co         | Motor To<br>Quentin V<br>Determin<br>Michael L<br>Examinin<br>Motor Te  | pology Selection for Electric Vehicles   | DANA   |
| Determining the Optimum Rotor-Topology for Electric Drives       DAIMLER         Michael Lampérth, CEO, Phi-Power       Examining the Latest Developments in and the Potential of Axial Flux         Motor Technology       Peter van Duijsen, Researcher, TU Delft         Simulating Thermal Management for E-Motors and Power Electronics       Image: Comparison of the Comparison of the Electric Power Electronics         12:30       Networking Lunch & Opportunity to Take Advantage of Activities on Show Floor         14:00       Powertrain Efficiency: Evaluating the Different Techniques for Improving the Energy Efficiency of The Electric Powertrain         Moderator/Speaker Robert Stanek, Lead Electric Powertrain and Cost Management, P3 Group       Df group         Greg Harris, Global Electrification Services Leader, HORIBA MIRA       The Development of Efficient Electric Powertrains         Johan Vanhuyse, Research & Application Engineer, Siemens Industry Software       Comparison of Emprecision and Evaluating Hybrid   | Determin<br>Michael L<br>Examinin<br>Motor Te   | Verner Electric Machine Decign Engineer Deimler  |  |
| Examining the Latest Developments in and the Potential of Axial Flux<br>Motor Technology       Image: Constraint of the Potential of Axial Flux<br>Motor Technology         Peter van Duijsen, Researcher, TU Delft<br>Simulating Thermal Management for E-Motors and Power Electronics       Image: Constraint of the Potential of Axial Flux<br>Simulating Thermal Management for E-Motors and Power Electronics         12:30       Networking Lunch & Opportunity to Take Advantage of Activities on Show Floor         14:00       Powertrain Efficiency: Evaluating the Different Techniques for Improving<br>the Energy Efficiency of The Electric Powertrain         Moderator/Speaker Robert Stanek, Lead Electric Powertrain and Cost Management,<br>P3 Group       Image: Comparison of Efficient Electric Powertraint         Greg Harris, Global Electrification Services Leader, HORIBA MIRA<br>The Development of Efficient Electric Powertrains       Image: Comparison of Efficient Electric Powertraint         Johan Vanhuyse, Research & Application Engineer, Siemens Industry Software       Comparison of Efficient Electric Powertraint of Efficient Electric Powertraint  | Examinin<br>Motor Te  |  | DAIMLER  |
| Simulating Thermal Management for E-Motors and Power Electronics       TUDelft         12:30       Networking Lunch & Opportunity to Take Advantage of Activities on Show Floor         14:00       Powertrain Efficiency: Evaluating the Different Techniques for Improving the Energy Efficiency of The Electric Powertrain         Moderator/Speaker Robert Stanek, Lead Electric Powertrain and Cost Management, P3 Group       Df group         Greg Harris, Global Electrification Services Leader, HORIBA MIRA       The Development of Efficient Electric Powertrains         Johan Vanhuyse, Research & Application Engineer, Siemens Industry Software       Caparative Engineering: Automatically Creating and Evaluating Hybrid  | Peter van   | g the Latest Developments in and the Potential of Axial Flux   | <b><i>P</i>-power ag</b><br>www.gbi-power.com              |
| 14:00       Powertrain Efficiency: Evaluating the Different Techniques for Improving the Energy Efficiency of The Electric Powertrain         Moderator/Speaker Robert Stanek, Lead Electric Powertrain and Cost Management, P3 Group       P3         Greg Harris, Global Electrification Services Leader, HORIBA MIRA       P3         The Development of Efficient Electric Powertrains       Image: Creating and Evaluating Hybrid   |   |  | <b>f</b> UDelft  |
| the Energy Efficiency of The Electric Powertrain         Moderator/Speaker Robert Stanek, Lead Electric Powertrain and Cost Management,<br>P3 Group         Greg Harris, Global Electrification Services Leader, HORIBA MIRA         The Development of Efficient Electric Powertrains         Johan Vanhuyse, Research & Application Engineer, Siemens Industry Software         Generative Engineering: Automatically Creating and Evaluating Hybrid   | 12:30 Ne  | tworking Lunch & Opportunity to Take Advantage of Activities on Show Floor   |  |
| P3 Group Greg Harris, Global Electrification Services Leader, HORIBA MIRA The Development of Efficient Electric Powertrains Johan Vanhuyse, Research & Application Engineer, Siemens Industry Software Generative Engineering: Automatically Creating and Evaluating Hybrid  |   |  |  |
| The Development of Efficient Electric Powertrains  |   |  |  |
| Constative Engineering: Automatically Creating and Evaluating Hybrid   | _   |  | MIRA   |
| Powertrain Architectures   | Generati  | ve Engineering: Automatically Creating and Evaluating Hybrid   | SIEMENS  |
| 15:15 Networking Refreshments in Conference Foyer  | 15:15   | Networking Refreshments in Conference Foyer  |  |
| 15:45 Race Track to The Road: Evaluating the Latest Second Generation Race Technology  | 15:45 Race Tra  | ack to The Road: Evaluating the Latest Second Generation Race Technology   | 7  |
|  | Moderate  | or/Speaker Jana Kirchen, Consultant, P3 Group  | <b>P3</b> group  |
| Moderator/Speaker Jana Kirchen, Consultant, P3 Group   | Jason Kir<br><b>Race to t</b>   | ng, Business Development Director, Integral Powertrain   | integral<br>e-drive  |

Rosen Daskalov, Founder, Sin Cars

17:00

Outlining the L City Is a Multifunctional Electric Vehicle Platform - Charting the Evolution of Sin Cars from Race Track to The Road

Anthony Law, Head of Motorsport Batteries, McLaren Applied Technologies

Close of Day Two and Evening Drinks Reception in Exhibition Hall

SIN

SINCARS

McLaren



# Daily Agenda Day 2 - Wednesday 8 May









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## Track 1 **Optimising Automotive Battery Technology Design**

|       |  | -8                             |
|-------|--|--------------------------------|
| 08:30 | Welcome Address Paul Freeland, Principal Engineer, Cosworth  | COSWORTH                       |
| 08:45 | Balancing Functionality and Application Design in OEM Platform & Battery Developr  | nent                           |
|       | Dr Kai-Christian Moeller, Spokesman, Fraunhofer Batteries<br>Development Perspectives for Cell Formats of Lithium-Ion Batteries in Electromobility                             | Fraunhofer                     |
|       | Karsten Mueller, Senior Vice President High Voltage Systems Management, IAV GmbH<br>EMBATT – A New Approach To Battery Design  | engineering                    |
|       | AK Srouji, Director of Battery Cell Technology, Romeo Power  | B<br>ROMEO<br>POWER TECHNOLOGY |
|       | Dustin Grace, VP of Engineering, Energy Storage and Power Systems, Proterra  | PROTERRA                       |
| 10:30 | Networking Break: Coffee & Refreshments in the Foyer   |                                |
| 11:00 | Electrification for the Masses: Optimising 48V Battery Systems for Mild-Hybrids  |                                |
|       | Moderator Paul Freeland, Principal Engineer, Cosworth  | Cosworth                       |
|       | Michael Bassett, Chief Engineer - Research & Advanced Engineering, MAHLE Powertrain Limited<br>48 V High-Power Battery for Mild-hybrid Electric Powertrains                    | Powertrain                     |
|       | Ian Braime, Executive Director, Low Voltage Product Management, A123 Systems<br>Key Considerations When Selecting Battery Solutions for 48V Applications                       | A123                           |
|       | Phil Shaw, Product Line Director, Johnson Controls<br>Why LTO Based Chemistries are The Future of 48V Batteries  | Johnson<br>Controls            |
| 12:30 | Networking Lunch & Opportunity to Take Advantage of Activities on Show Floor   |                                |
| 14:00 | Investigating Advances in Modular Pack Design and Applications   |                                |
|       | Paul Freeland, Principal Engineer, Cosworth  | COSWORTH                       |
|       | Paweł Swoboda, Electric Vehicles Business Development Manager, BMZ POLAND<br>Current and Future Modularity Approach in Heavy Electrical Vehicle Battery Systems                | THE INNOVATION GROUP           |
|       | Martin Klein, Senior Vice President of Engineering, XALT Energy LLC  | /                              |
|       | Extending Vehicle Mission Capabilities with Adaptive Battery Modules and Controls  | XALT Energy                    |
|       | Tobias Mayer, Technical Manager, LION Smart GmbH<br>Modular Battery Packs on the Basis of Different Cell Technologies and Geometries –<br>Outlook to Cylindrical System Design | LION C Smart                   |
| 15:15 | Networking Break: Coffee & Refreshments in the Foyer   |                                |
| 15:45 | Extending Battery Life, Range and Performance through Battery Management Syster  | ns                             |
|       | Moderator Paul Freeland, Principal Engineer, Cosworth  | COSWORTH                       |
|       | Roland Biberger, System Architect Electronics HV-Battery, Audi<br>Future Trends in High-Voltage Battery Electronics  |                                |
|       | Joel Sylvester, Chief Technology Officer, Dukosi Ltd<br>BAFTA - A Toolkit for Design and Optimised Operation of EV Batteries   | D U K<br>O S I                 |
|       | Oskar Dondelewski, Advanced Operations Engineer, Aston Martin  | ASTON MARTIN                   |
|       | Samuel Cregut, Battery Management System Expert, Groupe Renault<br>A BMS Breakthrough: an OEM Theoretical and Proof Of Concept Approach to Wireless BMS                        | Groupe Renault                 |
|       | Alexandre Collet, Chief Technology Officer, ION Energy Inc.<br>Battery Intelligence: Using Data to Make the BMS Smarter and Improve Battery Life<br>and Performance            | <b>ION</b> ENERGY              |
| 17:00 | Close of Day Two and Evening Drinks Reception in Exhibition Hall   |                                |

# **Track 2 Battery Chemistries: Increasing Energy**

| Den            | sity & Future Battery   |
|----------------|---|
| 08:30          | Moving Toward Higher Nickel Chemist   |
|                | Moderator Andy Leyland, Head of Forecastin  |
|                | Claudio Brivio, R&D Engineer, CSEM<br>The High Energy Density Challenge in Sola   |
|                | Dr Dee Strand, CSO, Wildcat Discovery Tech<br>Accelerating Development of High Nickel (   |
|                | Joanna Clark, Head of Product Development<br>Next Generation High-Energy Low-Cobalt<br>Stability and Safety   |
|                | Raymond Oei, CEO, PT STERN<br>Considering Manganese As the Key to Lov   |
| 10:30          | Networking Break: Co  |
| 11:00          | Pushing the Limits of Lithium-Ion Cell  |
|                | Moderator Jim Greenberger, Executive Direc  |
|                | Kenan Sahin, President and Founder, CAMX<br>Innovation for Lithium-Ion Batteries: Gaps  |
|                | Dr Wasim Sarwar, Technical Specialist – Batt<br>Development of Cutting-Edge Battery Pac   |
|                | Tobias Placke, Head of Division "Materials",<br>University of Münster<br>Towards High-Energy Lithium-Ion Batterie<br>Intercalation Chemistry  |
|                |   |
|                | Andrey Senyut, CEO, OCSiAl Energy<br>Reaching 300 Wh/kg Energy Density with (<br>Energy Si/C/SiO Anodes   |
| 12:30          | Reaching 300 Wh/kg Energy Density with (  |
| 12:30<br>14:00 | Reaching 300 Wh/kg Energy Density with (<br>Energy Si/C/SiO Anodes  |
|                | Reaching 300 Wh/kg Energy Density with 6<br>Energy Si/C/SiO Anodes<br>Networking Lunch & Opportunit   |
|                | Reaching 300 Wh/kg Energy Density with (<br>Energy Si/C/SiO Anodes<br>Networking Lunch & Opportunit<br>Future Proofing 12V Technologies: Lead   |
|                | Reaching 300 Wh/kg Energy Density with (<br>Energy Si/C/SiO Anodes<br>Networking Lunch & Opportunit<br>Future Proofing 12V Technologies: Lead<br>Moderator/Speaker Rene Schroeder, Execut   |
|                | Reaching 300 Wh/kg Energy Density with 0<br>Energy Si/C/SiO Anodes<br>Networking Lunch & Opportunit<br>Future Proofing 12V Technologies: Lead<br>Moderator/Speaker Rene Schroeder, Execut<br>The EU Before the Elections – What's Next  |
|                | Reaching 300 Wh/kg Energy Density with 0<br>Energy Si/C/SiO Anodes<br>Networking Lunch & Opportunit<br>Future Proofing 12V Technologies: Lead<br>Moderator/Speaker Rene Schroeder, Execu<br>The EU Before the Elections – What's Next<br>Christoph Fehrenbacher, Managing Director,<br>Jörn Albers PhD, Manager Global Requireme<br>Solutions EMEA, Johnson Controls Power Sc<br>Are All Battery Technologies Created Equa  |
|                | Reaching 300 Wh/kg Energy Density with G<br>Energy Si/C/SiO Anodes<br>Networking Lunch & Opportunit<br>Future Proofing 12V Technologies: Lead<br>Moderator/Speaker Rene Schroeder, Execu<br>The EU Before the Elections – What's Next<br>Christoph Fehrenbacher, Managing Director,<br>Jörn Albers PhD, Manager Global Requireme<br>Solutions EMEA, Johnson Controls Power So<br>Are All Battery Technologies Created Equa<br>and Regulatory Framework That Enables A   |
| 14:00          | Reaching 300 Wh/kg Energy Density with G<br>Energy Si/C/SiO Anodes<br>Networking Lunch & Opportunit<br>Future Proofing 12V Technologies: Lead<br>Moderator/Speaker Rene Schroeder, Execut<br>The EU Before the Elections – What's Next<br>Christoph Fehrenbacher, Managing Director,<br>Jörn Albers PhD, Manager Global Requireme<br>Solutions EMEA, Johnson Controls Power So<br>Are All Battery Technologies Created Equa<br>and Regulatory Framework That Enables A<br>Armin Warm, Supervisor Advanced Power So<br>Ford Research & Advanced Engineering Euro   |
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| 14:00          | Reaching 300 Wh/kg Energy Density with 0         Energy Si/C/SiO Anodes         Networking Lunch & Opportunit         Future Proofing 12V Technologies: Lead         Moderator/Speaker Rene Schroeder, Execut         The EU Before the Elections – What's Next         Christoph Fehrenbacher, Managing Director,         Jörn Albers PhD, Manager Global Requireme         Solutions EMEA, Johnson Controls Power Sc         Are All Battery Technologies Created Equat         and Regulatory Framework That Enables A         Armin Warm, Supervisor Advanced Power Su         Ford Research & Advanced Engineering Euro         Networking Break: Co   |
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#### Day 2 - Wednesday 8 May

