



## **Program and Exhibition Brochure**

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#### ABOUT E|DPC

Increasing power consumption, CO2 and NOx reduction, growing mobility and progressing automation – all of these future megatrends are impossible without powerful electric drives. The electrification of the automobile powertrain system is considered crucial, as the whole sector is facing difficulties resulting from the substitution of the complete conventional powertrain. Besides advancing ideas on the design of powerful electric drives, the organization of the manufacturing processes and systems is of utmost importance.

The E|DPC 2023 offers an outstanding platform for the exchange of experiences from developers, researchers and potential users. The focus of the conference is set on the presentation of highly innovative products from various industries as well as manufacturing processes and strategies.

The core topics of the conference will be insulation technologies and the design and process development for windings. In addition, current topics like Aluminum as Conductor Material, Soft Magnetic Materials, Lamination Stacks, Charging Infrastructure and other related topics along the value chain will be presented in accompanying sessions. Comprehensive industrial exhibitions and poster presentations will complement the conference and create a sustainable experience for every participant.

#### **ON-SITE ORGANIZATION**

Opening time conference:

Wednesday, 29 November 2023, Thursday, 30 November 2023,

08:30 AM - 05:15 PM 08:30 AM - 04:30 PM

Phone: +49 8191 125-318

Opening time table top exhibition:

Wednesday, 29 November 2023, Thursday, 30 November 2023, 09:00 AM - 05:00 PM 09:00 AM - 03:30 PM

#### **PUBLICATION**

All Scientific Fullpapers accepted and registered will be part of the proceedings of E|DPC. The scientific contributions will be presented orally in various sessions or as poster presentations and the corresponding papers will be published on IEEE Xplore® and indexed by Scopus and Google Scholar.

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#### CONTACT

#### CONFERENCE COORDINATOR



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#### FOREWORD BY THE CONFERENCE CHAIRMAN



# Dear distinguished experts in drive technology!

Just like in previous years, the transition towards electromobility continues to make steady progress, despite the ongoing global challenges. In Germany, this year's electric car registrations are once again heading to surpass last year's record numbers, indicating that further electrification of the automotive sector is well underway.

Moreover, the electrification in various other sectors is also making significant headway, including the field of agriculture. We are delighted to announce that one of the keynote presentations at this year's E|DPC will focus on innovative electric drives for agriculture. Together with other technologies, such as autonomous driving and irrigation, electric drives are driving the transformation towards a more sustainable agricultural sector.

Amidst the entire revolution in mobility, the expertise in electric motor production is becoming increasingly vital. The E|DPC presents the latest findings in materials, production processes and electric drive concepts. Seasoned experts and forward-thinking researchers will provide an ideal platform for knowledge exchange and expanding your professional network. Additionally, our exhibitors will present state-of-the-art technologies, allowing you to discuss your specific needs and tailor solutions accordingly.

We are pleased to welcome you once again in Regensburg. You can be excited and look forward to two amazing conference days. Stay curious and explore the latest trends and developments in electric drive technologies at the E|DPC 2023.

I am looking forward to meeting you in Regensburg!

Prof. Dr.-Ing. Jörg Franke

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TU Chemnitz (DE)

### TIME SCHEDULE OVERVIEW

| WEDNESDAY, 29 NOVEMBER 2023 |   |  |   |  |
|-----------------------------|---|--|---|--|
| 8:30 AM                     | Welcome Coffee  |  |   |  |
| 9:00 AM                     | Opening Keynote: Dr. Pichlmaier, Benno, AGCO Corporation (DE)                   |  |   |  |
| 9:35 AM                     | Opening Keynote: Petrovski, Dean, DeepDrive GmbH (DE)                           |  |   |  |
| 10:10 AM                    | Opening of the Conference: Prof. Franke, Jörg, University of Erlangen-Nuremberg |  |   |  |
| 10:15 AM                    | Coffee Break  |  |   |  |
|                             | Track 1   | Track 2  | Track 3   |  |
| 10:45 AM                    | Winding Technologies I  | Technologies for Permanent Magnet<br>Rotors I  | Trends in Production Processes for<br>Electric Drives I   |  |
| 12:15 PM                    | Lunch Break   |  |   |  |
| 1:45 PM                     | Contacting Technologies   | Technologies for Permanent Magnet<br>Rotors II | Trends in Production Processes for<br>Electric Drives II  |  |
| 3:15 PM                     | Coffee Break  |  |   |  |
| 3:45 PM                     | Insulation Materials and Technologies   | Trends in Electric Machine Design              | Trends in Production Processes for<br>Electric Drives III |  |
| 5:15 PM                     | End of Conference Day One   |  |   |  |
| 7:30 PM                     | Evening Reception   |  |   |  |

| THURSDAY, 30 NOVEMBER 2023 |  |                         |  |
|----------------------------|--|-------------------------|--|
| 8:30 AM                    | Welcome Coffee                                     |                         |  |
|                            | Track 1  | Track 2                 | Track 3  |
| 8:45 AM                    | Soft Magnetic Materials I                          | Hairpin Stators         | Trends in Production Processes for<br>Electric Drives IV |
| 10:15 AM                   | Coffee Break                                       |                         |  |
| 10:45 AM                   | Soft Magnetic Materials II                         | Winding Technologies II | Data-Driven Approaches in<br>Electric Drives             |
| 12:15 PM                   | Lunch Break  |                         |  |
| 1:45 PM                    | Soft Magnetic Materials III                        | Innovative Conductors   | Induction Technologies                                   |
| 3:15 PM                    | Coffee Break                                       |                         |  |
| 3:45 PM                    | Closing Keynote: Leveston, Zach, xEL Mobility (US) |                         |  |
| 4:15 PM                    | Best Paper Award and Closing Words                 |                         |  |
| 4:30 PM                    | End of the Conference                              |                         |  |

# TIME SCHEDULE Wednesday, 29 November 2023

| 8:30 AM   | Welcome Coffee   |   |   |  |
|-----------|--|---|---|--|
| 6:50 AIVI | Welcome Coffee   |   |   |  |
| 9:00 AM   | Opening Keynote: Electrification for Agricultural Machines – Challenges and Opportunities  Dr. Pichlmaier, Benno, Director Global Research & Advanced Engineering, AGCO Corporation (DE) |   |   |  |
| 9:35 AM   | Dual-Rotor, Radial-Flux Electric Machine with Low Production Cost and High Efficiency<br>Petrovski, Dean, Production Engineering, DeepDrive GmbH (DE)                                    |   |   |  |
| 10:10 AM  | Opening of the Conference:<br>Prof. Franke, Jörg, University of Erlangen-N   | uremberg (DE)   |   |  |
| 10:15 AM  | Coffee Break   |   |   |  |
|           | Session 1: großes Forum  | Session 2: Forum 7, 8, 9  | Session 3: kleines Forum  |  |
|           | Winding Technologies I   | Technologies for<br>Permanent Magnet Rotors I   | Trends in Production Processes for<br>Electric Drives I   |  |
|           | Session Chair: Prof. Franke, Jörg,<br>University of Erlangen-Nuremberg (DE)  | Session Chair: Prof. Rudolph, Christian,<br>Hochschule für Angewandte Wissenschaf-<br>ten Hamburg (DE)                | Session Chair: Prof. Dietz, Armin,<br>Nuremberg Institute of Technology (DE)  |  |
| 10:45 AM  | DHD (Distributed High Density) Stator<br>Winding Technology – Updates on the<br>New 800 V Prototype and Overview of<br>the Prototypes Manufacturing Process                              | Optimizing the Permanent Magnet Rotors of the Formula Electric Belgium and the Innoptus Solar Team Electric Race Cars | Latest Trends and Technology Develop-<br>ments for Automotive e-Powertrains   |  |
|           | Kaden, Christoph, Marsilli Deutschland<br>GmbH (DE), Vanzetti, Gianpiero, Marsilli<br>S.p.A. (IT)  | Dr. Vervaeke, Koen, Magcam NV (BE)  | Dr. Tan-Kim, Antoine,<br>AVL Software and Functions GmbH (DE)   |  |
| 11:15 AM  | Flexible Manufacturing of High-value<br>Low-volume Electrical Machines through<br>Robotic Coil Winding   | IPM Rotor Magnetization Technologies and their Evaluation Methods   | Laser Doppler Vibrometry with the Patented QTec® Technology for End-of-Line Quality Control in Production and Vibration Optimization of Electric Motors |  |
|           | Pisanelli, Gianmarco, AMRC (GB)  | Tomita MSc, Naoya, Nihon Denji Sokki (JP)   | Mörl, Robert, Polytec GmbH (DE)   |  |
| 11:45 AM  | Flexible Winding Technologies are<br>Needed to Meet the Future Efficiency<br>Targets for Traction eMachines  | Third Generation of Sintered NdFeB<br>Magnets - Local Diffusion of Heavy Rare<br>Earth - "3D-GBD"                     | Dynamic Torque Technology for<br>Optimizing the E-Motor's Design,<br>Operation and Qualityn   |  |
|           | Dr. Simkin, David,<br>University of Warwick (GB)   | Dr. Furgeri, Alexander, JL MAG (NL)   | Dr. Wimler, David, Piezocryst Advance<br>Sensorics GmbH (AT)  |  |
| 12:15 PM  | Lunch Break  |   |   |  |
|           | Session 4: großes Forum  | Session 5: Forum 7, 8, 9  | Session 6: kleines Forum  |  |
|           | Contacting Technologies  | Technologies for Permanent Magnet<br>Rotors II  | Trends in Production Processes for<br>Electric Drives II  |  |
|           | Session Chair: Dr. Gläßel, Tobias,<br>Schaeffler Technologies AG & Co.KG (DE)  | Session Chair: Dr. Urban, Nikolaus,<br>Dräxlmaier Group (DE)  | Session Chair: Dr. Meyer, Alexander,<br>Wittenstein cyber motor GmbH (DE)   |  |
| 1:45 PM   | Systematics for Increasing the Robust-<br>ness of the Laser Welding Process of<br>Electric Drive Copper Hairpin Windings   | Wave Spring-Based Magnet Fixations for<br>Electric Traction Motors  | Prototype Fabrication of Complex Cooling<br>Channels by Potting, Additively Manufac-<br>tured Inserts in an Electric Motor                              |  |
|           | Beranek, Matthias, TRUMPF Laser- und<br>Systemtechnik GmbH (DE)  | Heim, Markus, Karlsruhe Institute of<br>Technology (KIT) (DE)   | John, Leonard, Fraunhofer ICT (DE)  |  |
| 2:15 PM   | Sustainable and Media-free Laser<br>Pre-Treatment and Decoating in the<br>Production Chain of e-Drive System<br>Manufacturing  | Magnet and Stack Onding in<br>Electric Motors   | Robotic based Assembly of Insulating<br>Sleeves onto Winding Coil Ends of Electric<br>Drive Stators   |  |
|           | Weichert, Tobias,<br>Clean-Lasersysteme GmbH (DE)  | Hardelt, Stefan, Kisling AG (CH)  | Mahr, Alexander,<br>University of Erlangen-Nuremberg (FAU)<br>(DE)  |  |
| 2:45 PM   | Adaptive Vacuum Laser Beam Welding of Hairpin Stators Using Supervised Learning  | Handling of Permanent Magnets in Automation   |   |  |
|           | Bajah, Yazan,  | Happ, Jonas, haprotec GmbH -<br>System-Automation (DE)  |   |  |

## TIME SCHEDULE Wednesday, 29 November 2023

| 3:15 PM | Coffee Break  |  |   |
|---------|---|--|---|
|         | Session 7: großes Forum   | Session 8: Forum 7, 8, 9   | Session 9: kleines Forum  |
|         | Insulation Materials and Technologies   | Trends in Electric Machine Design  | Trends in Production Processes for<br>Electric Drives III   |
|         | Session Chair: Dr. Kühl, Alexander,<br>University of Erlangen-Nuremberg (FAU) (DE)  | Session Chair: Dr. Albrecht, Thomas,<br>Mercedes Benz AG (DE)              | Session Chair: Dr. Goth, Christian, Vitesco<br>Technologies Germany GmbH (DE)   |
| 3:45 PM | PFA Magnet Wire for High-Performance<br>Traction Drives – Properties, Processing &<br>Application   | An Overview of Design and Calculation of a Synchronous-Reluctance Machine  | Analysis of the Influence of Various Bend-<br>ing Parameters on the Resulting Electrical<br>Properties of Bent Hairpins |
|         | Arnold, Philipp,<br>Additive Drives GmbH (DE)   | Schmidt, Michael, Technische Hochschule<br>Nürnberg Georg Simon Ohm (DE)   | Born, Henrik Christoph,<br>Chair of Production Engineering of<br>E-Mobility Components (DE)                             |
| 4:15 PM | Cycle Time improvement through<br>Next Generation Impregnation Resins   | Design of Shaped Electric Machine<br>Windings to Reduce Ohmic Losses       | Saint-Gobain Solutions for Electric Vehicles  |
|         | Teufl, Alexander,<br>VonRoll Deutschland GmbH (DE)  | Luna Acevedo, Israel,<br>General Electric Deutschland Holding<br>GmbH (DE) | Schwiegel, Martin and Martin,<br>Amandine, Saint-Gobain Solutions for<br>Electric Vehicles (DE)                         |
| 4:45 PM | How to Achieve Slot Fill Factors Higher<br>than 99% with Trickle Impregnation for<br>800V E-drive Hairpin Stators and New<br>Developments | Segmented Exterior-Rotor PMSM for<br>Increased Torque Density              | Flexible Production Solution for Flat Wire<br>Motor Stator Production Line  |
|         | Jorissen, Andy, bdtronic GmbH (DE)  | Wilfling, Timo, Technische Hochschule<br>Nürnberg Georg Simon Ohm (DE)     | Wang, Xianfeng, NEVEM Intelligent<br>Technology (Shanghai) Co., Ltd. (CN)   |
| 5:15 PM | End of Conference Day One   |  |   |
| 7:30 PM | Evening Reception at Brauhaus am Schloss  |  |   |

The blue timeslots are marking the application-oriented industrial contributions.

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# TIME SCHEDULE Thursday, 30 November 2023

| 8:30 AM  | Welcome Coffee  |  |   |
|----------|---|--|---|
|          | Session 10: großes Forum  | Session 11: Forum 7, 8, 9  | Session 12: kleines Forum   |
|          | Soft Magnetic Materials I   | Hairpin Stators  | Trends in Production Processes for<br>Electric Drives IV  |
|          | Session Chair: Dr. Waasner, Michael,<br>Gebr. Waasner Elektrotechnische Fabrik<br>GmbH (DE)   | Session Chair: Dr. Simkin, David,<br>University of Warwick (GB)  | Session Chair: Dr. Meyer, Alexander,<br>Wittenstein cyber motor GmbH (DE)                                     |
| 8:45 AM  | Residual Stress and Magnetic Material<br>Properties of Embossed Magnetic Flux<br>Barriers in Non-Oriented Electrical Steel<br>under Unidirectional Tensile Strain     | Parameter Study on Bending of Rectan-<br>gular Copper Hollow Wire for the Use in<br>Hairpin Stator Electric Traction Motors  | Process-Chain-Concepts for E-Drive-Gears  |
|          | Gilch, Ines,<br>Technische Universität München (DE)   | Backes, Till Augustin, Chair of Production<br>Engineering of E-Mobility Components<br>RWTH Aachen University (DE); DrIng.<br>Al-Kinani, Raad, dynamic E flow GmbH (DE) | Prof. DrIng. Dix, Martin,<br>Fraunhofer IWU - Institute for Machine<br>Tools and Forming Technology (DE)      |
| 9:15 AM  | Influence of High-Speed Impact Cutting<br>on the Electromagnetic Properties of<br>Non-Oriented Electrical Steel Sheets  | Approach for Flexible Gripping and Sequential Alignment of Hairpin Baskets   | Methodology for the Implementation of<br>a Consistent Information Model for the<br>Electric Drives Production |
|          | Matt, Jonas, Mercedes-Benz AG (DE)  | Fraider, Felix,<br>Karlsruhe Institute of Technology (KIT) (DE)  | Klein, Nicolaus,<br>wbk Institute of Production Science<br>Karlsruhe Institute of Technology (KIT) (DE)       |
| 9:45 AM  | Influence of the Machining Condition on the Lifetime under Cyclic Loading of Non-Grain-Oriented Electrical Steel Strips   | Calculation of Process Parameters for the<br>Twisting of Stators with Hairpin Winding  | Closed-Loop Process Control for Sequential Tool-Bound Bending of Hairpin Coils                                |
|          | Schwarz, Patrick, Hochschule Esslingen,<br>University of Applied Sciences (DE)  | Hausmann, Ludwig,<br>Karlsruhe Institute of Technology (KIT) (DE)  | Wirth, Felix,<br>Karlsruhe Institute of Technology (KIT) (DE)   |
| 10:15 AM | Coffee Break  |  |   |
|          | Session 13: großes Forum  | Session 14: Forum 7, 8, 9  | Session 15: kleines Forum   |
|          | Soft Magnetic Materials II  | Winding Technologies II  | Data-Driven Approaches in Electric Drives   |
|          | Session Chair: Dr. Waasner, Michael,<br>Gebr. Waasner Elektrotechnische Fabrik<br>GmbH (DE)   | Session Chair: Dr. Risch, Florian, BMW AG (DE)   | Session Chair: Dr. Hubert, Markus,<br>Valeo eAutomotive Germany GmbH  |
| 10:45 AM | Screen Printing Electrical Sheets –<br>Possibilities of Additive Manufacturing to<br>Reduce Losses  | Wound Rotors for EESM Motors –<br>A Comparison of Innovative Winding<br>Technologies   | Reinforcement Learning Control of<br>Six-Phase Permanent Magnet<br>Synchronous Machines                       |
|          | Dr. Mix, Torsten, Fraunhofer Institute for<br>Manufacturing Technology and Advanced<br>Materials IFAM (DE)  | Vanzetti, Gianpiero, Marsilli S.p.A. (IT)  | Broghammer, Lara,<br>Technische Hochschule Nürnberg (DE)  |
| 11:15 AM | Systematic Qualification of Layer<br>Thickness, Roundness and Defects of<br>Screen-printed Magnetic Sheets  | A Comparison between Continuous<br>and Hairpin Windings for Electric Traction<br>Drives  | Cognitive Power Electronics for Detection of Demagnetization in Electric Drives                               |
|          | Schmidt, Alexander, University of Erlangen-Nuremberg (FAU) (DE)   | Marijuan, Marta, GKN Automotive (ES)   | Blechinger, Christoph,<br>Fraunhofer Institute for Integrated<br>Systems and Device Technology IISB (DE)      |
| 11:45 AM | Manufacturing Processes for<br>2.5D Laminated Stacks  | Comparison of Optimized Hairpin and<br>Pull-in Winding High-Speed Electrically<br>Excited Synchronous Machines for<br>Traction Applications                            | Efficient Calibration of LPTN Models for<br>Digital Twins of ePowertrain Motors                               |
|          | Dr. Tinkler, Lloyd,<br>The University of Sheffield (GB)   | Singh, Samar, Mercedes-Benz AG (DE)  | Garcia Urbieta, Jon, GKN Automotive (ES)  |
| 12:15 PM | Lunch Break in Foyer Ground Floor - Accompanied by Poster Session   |  |   |
| 1:00 PM  | Scientific Poster Session at Foyer Ground Floor   |  |   |
|          | Methodology for the Mechanical Characterization of Rectangular Winding Wire in the Context of Electric Mobility Wirth, Felix, Karlsruhe Institute of Technology (DE)  |  |   |
|          | Influence of Cable Lug Properties on the Torsional Ultrasonic Crimping Process of High-Frequency Litz Wires Seefried, Johannes, University of Erlangen-Nuremberg (DE) |  |   |

## TIME SCHEDULE Thursday, 30 November 2023

|         | Session 16: großes Forum  | Session 17: Forum 7, 8, 9  | Session 18: kleines Forum  |
|---------|---|--|--|
|         | Soft Magnetic Materials III   | Innovative Conductors  | Induction Technologies   |
|         | Session Chair: von Lindenfels, Johannes,<br>University of Erlangen-Nuremberg (FAU) (DE)   | Session Chair: Dr. Gläßel, Tobias,<br>Schaeffler Technologies AG & Co.KG (DE)  | Session Chair: Dr. Risch, Florian, BMW AG (DE)   |
| 1:45 PM | Inferior Performance of Electric<br>Motors Caused by Degradation of Stator<br>Magnetic Properties after Manufacturing<br>Processes  | Technological Study of mechanical,<br>electrical and thermal Characteristics for<br>Profiled High Frequency Litz Wires   | CO2 Neutral and Gas Free Industrial<br>Heating   |
|         | Dr. Mierczak, Luksaz, Dr. Brockhaus<br>Messtechnik GmbH & Co. KG (DE)   | Dr. Sell-Le Blanc, Florian, Schaeffler<br>Automotive Buehl GmbH & Co.KG (DE),<br>Platte, Volkmar, Elektrisola Dr. Gerd<br>Schildbach GmbH & Co. KG (DE)            | Dieterle, Stefan,<br>eldec Induction GmbH (DE)   |
| 2:15 PM | Temperature Influence on Core Losses and<br>Magnetization Demand of Electrical Steel<br>Sheets Using Adapted Epstein Frame and<br>Ring Probe  | Comparative Conductor Design Study of<br>processing and Insulation Characteristics<br>for Continuous Hairpin Stators Using Pro-<br>filed High Frequency Litz Wires | Induction Heating Technology for<br>E-Mobility Applications  |
|         | Regnet, Martin,<br>TH Nürnberg GSO (DE)   | Dr. Sell-Le Blanc, Schaeffler Automotive<br>Buehl GmbH & Co.KG (DE), Drexler, David,<br>Schaeffler Elmotec Statomat GmbH (DE)                                      | Dr. Seitzer, Andreas,<br>Himmelwerk Hoch- und<br>Mittelfrequenzanlagen GmbH (DE)   |
| 2:45 PM | Axial Flux and Slinky Stator Core<br>Technologies   | Optimized Electromagnetic Compatibility by New Servo Motor Cable Design  | Systematic Analysis of Thermal Demag-<br>netization of Permanent Magnetic Rotors<br>by Induction in the Context of Recycling |
|         | Sinha, Shrivatsa, Precision Pressing<br>Manufacturers (IN)  | Hilsenbeck, Stefan, LAPP Holding SE (DE)   | Ihne, Thorsten, University of Erlangen-<br>Nuremberg (DE)  |
| 3:15 PM | Coffee Break  |  |  |
|         | Closing Session   |  |  |
| 3:45 PM | Closing Keynote: Power Surge or Short Circuit: The Dual Role of xEV Grade Non-Oriented Electrical Steel in Advancing and Endangering the Automotive Electrification Megatrend Leveston, Zach, President and Managing Principal, xEL Mobility (US) |  |  |
| 4:15 PM | Best Paper Award and Closing Words: Prof. Franke, Jörg, University of Erlangen-Nuremberg (DE)   |  |  |
| 4:30 PM | End of Conference   |  |  |

## TABLE TOP EXHIBITION Wednesday, 29 November and Thursday, 30 November 2023

E|DPC Table Top Exhibition showcases components, semi-finished goods and materials as well as production-related cutting-edge processes in the production of electric drives and generators.

Meet German and international providers of this technology. Find out about the latest products, innovations and trends, as well as current issues to produce your electric drive or generator. You will receive trend-setting impulses for the use and processing of new materials, productive and flexible assembly technologies as well as innovative motor topologies and control concepts. Visit the Exhibition *in the Foyer Ground Floor* and take the chance to meet new dialogue partners from industry and science.

#### **Exhibition topics**

The structure of the product groups are based on the valuechain and the production-related cutting-edge processes in the field of the production of electric drives and generators.

#### Value-chain

- Components
- Semi-Finished Goods and Materials

#### **Production-related cutting-edge Processes**

- Production Techniques/Manufacturing Facilities and Tools
- Quality, Testing/Measurement/Diagnostic Systems
- Electric Drives Manufacturing Services



Additive|Drives GmbH
Pforzheimer Str. 7a, 01189 Dresden
www.additive-drives.de

As the world market leader in 3D-printed electric motors, Additives Drives develops and manufactures a new generation of drives using the most innovative processes. Our patented technologies enable us to achieve the highest efficiency, shortest lead times and unsurpassed power densities. Our motors are not only used in automobiles, but also in industry, marine, aviation and motor sports. Thanks to our overall development competence, we can accompany customers from the initial idea to the finished product. Electrification moves the world. We make it simple!

Contact: Dr. Jakob Jung, Managing Director, Phone: +49 173 3061310, eMail: Jakob.jung@additive-drives.de

#### Wednesday, 29 November and Thursday, 30 November 2023



AVL Software & Functions GmbH Im Gewerbepark B29, 93059 Regensburg www.avl-functions.com AVL S&F is a pure engineering service provider and sample manufacturer including testing is one of the leading technology developers for future mobility solutions in the automotive and non-automotive drivetrain. As part of AVL List GmbH, and global competence center of soft- & hardware development, for new drive systems, we support together with 570 employees realizing mobility ambitions of architectures and platform solutions from the idea to series the production. Focus is on future technologies such as e-mobility, with drives, HW-controls as well as vehicle software. Our spirit: Why not! move different

Contact: J. Pfeiffer Sales & BD, Phone: +49 171 55 79 69 8, eMail: joachim.pfeiffer@avl.com



bdtronic GmbH Ahornweg 4, 97990 Weikersheim www.bdtronic.com bdtronic is the world's leading manufacturer of systems and process solutions in dispensing and trickle-varnishing technology, heat staking and plasma pretreatment. With its comprehensive product portfolio, bdtronic serves numerous well-known customers from a wide range of industries, in particular the automotive, electrical and electronics industries as well as filter and medical technology. Today, the company's success is backed by more than 450 employees worldwide at its headquarters in Weikersheim and at its subsidiaries in Belgium, Italy, Great Britain, the USA, Mexico and China.

Contact: Markus Rieger, Director Indirect Sales & Marketing, Phone: +49 171 7601488, eMail: markus.rieger@bdtronic.de

### BROCKHAUS MEASUREMENTS

BROCKHAUS MEASUREMENTS
Dr. Brockhaus Messtechnik GmbH & Co. KG
Gustav-Adolf-Str. 4, 58507 Lüdenscheid
www.brockhaus.com

BROCKHAUS is an international leading manufacturer of instrumentation devices and systems for the quality control and examination of magnetic materials.

Our customers are manufacturers of electric motors, generators, transformers and hard magnetic materials. We also count research institutes and universities among our customers.

Measurement of all magnetic properties in accordance with international standards.

Product program: Electrical steel tester, Stator tester, Franklin tester, Inline-measuring equipment, Thickness-, width- and hole detection instruments, Hysteresisgraphs, Rotor tester, Gaussmeter, Fluxmeter, Coil systems, Magnetizing devices, Measuring and calibration service.

Contact: Navid Cheema, Head of Laboratory/Product Manager, Phone: +49 173 9180 689, eMail: navid.cheema@brockhaus.com



CEIA Induktion GmbH Josef-Beyerle-Strasse 9, 71263 Weil der Stadt www.ltb-power.de CEIA Induktion GmbH is the German Sales and Project management subsidiary of Ceia S.p.A. (Italy), a manufacturer of Induction Heating Systems. With an experience of more than 10 years in the e-mobility industry, the company is market leader in providing inductive heat treatment solutions for the production of electrical traction engines.

Contact: Götz Biege, Head of Sales, Phone: +49 160 8210750, eMail: goetz.biege@ceia-induktion.de



eldec Induction GmbH Otto-Hahn-Strasse 14, 72280 Dornstetten www.eldec.net/en eldec - founded in 1982 in the Black Forest is a worldwide operating company, which develops, produces, and distributes induction heating technology for a wide range of industrial applications, more than ever with a focus on energy-efficient, CO2-free solutions. In addition to the well-proven generators and inductors, eldec offers complete system solutions for hardening, shrink-fitting and brazing. Increasingly for e-mobility components like hardening of rotor shafts or preheating of housings for stator shrink-fitting. For more information: www.eldec.net

Contact: Stefan Tzschupke, Head of Business Development, Phone: +49 7443 9649-6114, eMail: stefan.tzschupke@eldec.de



Universität Erlangen-Nürnberg FAPS Fürther Str. 246b, 90429 Nürnberg www.faps.fau.de The "E|DriveCenter" (Bavarian Technology Center for Electrical Drives) of the Institute for Factory Automation and Production Systems (FAPS) of the Friedrich-Alexander-UniversityErlangen-Nuremberg (FAU), innovates drive concepts and the related production technologies. These developments are aimed to be transfered from scientific findings to industrial applications. The key activities of the E|Drive Center are the analysis and optimization of the production-oriented construction and the production process design of components and systems for electrical drives. Furthermore, the manufacturing and testing processes are addressed for the components of inductive charge electric vehicles.

The center supports the automotive industry in the increasing usage of electric drive systems for the vehicles, and it improves the knowledge transfer in the field of electric drive technology in Bavarian industries.

 $\textbf{Contact:} \ Dr. \ A lexander \ K\"{u}hl, \ Director \ of the \ Research \ Sector \ Electromechanical \ Engineering, \\ e Mail: \ alexander. kuehl@faps. fau. de$ 

### HIMMELWERK

Himmelwerk Induction Heating Solutions Jopestr. 10, 72072 Tübingen www.himmelwerk.com HIMMELWERK was founded in 1879 by Mr. Gottlob Himmel in Tübingen, Germany. The production of high-frequency generators for inductive and capacitive heating commenced in 1950. Since more than 70 years, our HF- and MF induction heating equipment is serving customers all over the world. Key industries are automotive, electro-mobility, aerospace, medical instruments, optical industry, forging, machine building, automation, bonding, soldering, melting and shrink-fitting. We have solutions from 2 kHz to 2 MHz and from 2 kW to 250 kW module power for our highly diversified customers.

Contact: Andreas Seitzer, Managing Director, Phone: +49 172 7242292, eMail: a.seitzer@himmelwerk.com



HÜBERS Verfahrenstechnik Maschinenbau GmbH Schlavenhorst 39, 46395 Bocholt www.huebers.de HÜBERS is one of the world's leading suppliers of systems and machinery for potting and impregnation of electrical components such as electrical drives' stators and rotors. HÜBERS is the customers' active project partner from process development to the start of operation and beyond. Having been providing system solutions for more than 80 years now, HÜBERS can justifiably claim to be one of the principal pioneers in resin casting and impregnation technology. As a result, HÜBERS have approximately 100 patents, utility models, and publications on their record.

Contact: Christof Pollmann, Sales Management, Phone: +49 2871 281-1201, eMail: c.pollmann@huebers.de



Kisling AG Motorenstrasse 102 8620 WETZIKON, SWITZERLAND www.kisling.com Kisling was founded in 1862 and today we are one of the world's leading manufacturers of high-quality adhesives and sealants for almost all industrial sectors, OEM manufacturers and specialist trade. Our product range includes high-strength structural adhesives based on (Meth)Acrylate and Epoxy, Anaerobic Adhesives, Instant Adhesives, RTV silicones as well as encapsulants for a wide variety of applications. At Kisling, the customer always comes first because application-specific adhesive and sealant solutions are constantly being developed.

Contact: Dominik Bojko, Business Development Manager, Phone: +49 175 268 06 57, eMail: dbojko@kisling.com

#### Wednesday, 29 November and Thursday, 30 November 2023



Linz Center of Mechatronics Altenberger Straße 69, 4040 Linz – Austria www.lcm.at The Linz Center of Mechatronics (LCM) is a hub for the R&D activities around electric drives in central Europe. With teams working on the design, simulation & optimization, control, involved electronics, and prototyping and testing, LCM supports its partners and customers along the eDrive value chain.

We focus on technology: LCM provides drive designs for high-performance, high speeds, high torques, lowest costs, challenging environments, etc., according to the partner needs. In our >20 years of experience, numerous designs from as small as inplantable hearing aids to as big as ship motors have ensured the market success for our customers.

Contact: Hubert Mitterhofer, Area Manager Electric Drives, Phone: +43 6648481274, eMail: hubert.mitterhofer@lcm.at



#### MAGCAM

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Magcam NV Romeinse Straat 18, 3001 Leuven – Belgium www.magcam.com Advanced Magnetic Field Measurement.

Magcam offers industry-leading technology for measuring magnetic fields of permanent magnets, magnetic assemblies, and permanent magnet rotors.

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Contact: Stephan Kliché, Phone: +32 473 70 29 36, eMail: Stephan.kliche@magcam.com



Marsilli S.p.A. Via per Ripalta Arpina 14 26012 Castelleone – Italy www.marsilli.com MARSILLI is a worldwide leader in Winding & Assembly Systems for coils and motors where precision, flexibility and customization are mandatory. MARSILLI has reached a worldwide consolidated position as a Solution Provider for Factory Automation covering various different industries. In the recent years, MARSILLI has committed to playing a significant role in the shift toward electrification thanks to its innovative winding solutions that surpass the traditional and more common technologies both for stator and rotor winding.

Contact: Dieter Kiefer, Managing Director Marsilli Deutschland GmbH, Phone: +49 721 6105 3500, eMail: info.de@marsilli.com



PPM Precision Pression Manufacturers No. W-10 & 11, Block F2, MIDC Pimpri, Pune - 411018 - India www.ppm.co.in/ Precision Pressing Manufacturers (PPM) is a leading industrial solutions provider specializing in advanced engineering technologies. With 46years of experience and a new focus on axial flux and slinky stator technology, we produce stator cores that help deliver unparalleled efficiency and performance in electric motors and generators. Our unique manufacturing facilities employ cutting-edge design methodologies to produce components of the highest quality.

Our team of engineers and technicians are experts in manufacturing axial flux stator cores, which allow for more compact, efficient, and lightweight motors. The revolutionary slinky stator technology we employ for radial flux machines significantly boosts output while reducing waste, thus contributing to sustainable energy solutions. With an extensive portfolio and a strong commitment to R&D, PPM is your go-to partner for innovative, high-performance engineering solutions.

Contact: Shrivatsa Sinha, Managing Partner, Phone: +91 9890323230, eMail: s.sinha@ppm.co.in



NEVEM Intelligent Technology (Shanghai) Co., Ltd. Address: No.601, Jiamei Road, Jiading District, Shanghai https://en.nevemotor.com/ NEVEM Intelligent Technology (Shanghai) Co., Ltd. was founded in 2018, focusing on integrated solutions for R&D and intelligent mass production of new energy vehicle drive motors. Our business scope covers prototype trial production, customization of single station/prototype lines/mass production lines, technological innovation, process development, as well as industrial cooperation etc.. With advantages in professional expertise, short lead time, premium quality, and competitive cost, we're committed to providing industry-leading products and services to OEMs and motor drive system suppliers in and abroad.

We're headquartered in Shanghai, China, with a manufacturing center and an intelligent equipment center over 20,000m<sup>2</sup>. Besides domestic branches in Dalian, Hefei and Henan, we've also set up overseas subsidiaries in Germany, the United States and Japan, to build the market in Europe and Asia Pacific region. We'll establish a global product and service system, to help customers achieve high-quality development.

We'll continue to explore in the field of flat wire drive motor production for new energy vehicles, to innovate and further improve our technical and manufacturing capabilities. With the spirit of being pioneer, we bring the world cutting-edge technologies from China.

Saint-Gobain Abrasives is a pioneering developer and supplier of powerful, precise and user-friendly solutions for surface grinding of E-Axle components. Saint-Gobain Bearings is an innovative solution provider for all things motion

Contact: Xianfeng Wang, CTO, Phone: +86 18616356630, eMail: xianfeng.wang@nevemotor.com



#### Bearings

Saint-Gobain Performance Plastics Pampus GmbH, Am Nordkanal 37, 47877 Willich, www.bearings.saint-gobain.com/

#### Abrasives

Saint-Gobain Abrasives GmbH, Birkenstraße 45 – 49, 50389 Wesseling, www.nortonabrasives.com/de-de

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control, whether it requires secure fastening, linear or rotational movement, or a mechanical slip clutch.



Stiefelmayer – Lasertechnik GmbH & Co.KG Rechbergstraße 42, 73770 Denkendorf www.stiefelmayer-lasertechnik.de Continual improvements lead us to high expertise in laser cutting machines for the E-Mobility Business. Stiefelmayer stands for german high class workmanship since 1874. In our effective s + I machine types the latest laser technology, light carbon construction and dynamic motor drives merge into a laser machine with previously unimagined capabilities. We also offer contract manufacturing that meets the highest demand. Laser cut stator and rotor laminates for prototypes, mini-series or starting new series. single sheets or stacks in various stacking technologies.

Contact: Dieter Bulling, Managing Director, Phone: +49 711 934 403 20, Mobile: +49 160 905 335 89, eMail: d.bulling@stiefelmayer.de



WAFIOS AG Silberburgstraße 5, 72764 Reutlingen www.wafios.com WAFIOS Electrifies – Trendsetting concepts for the production of current-carrying power train components for the e-mobility industry. The focus is on the development of machines for forming insulated copper wire and copper profiles as well as on advanced automation solutions.

WAFIOS specializes in the production of hairpins and busbars using flexible bending techniques. Thus ongoing production costs, e.g. for tools, can be kept at a low level, different geometries can be produced flexibly and a quick response to varying material properties is possible. Our experts assist you from prototyping to SOP and beyond

Contact: Christian Gekeler, Marketing Event, Phone: +49 7121 146 268, eMail: c.gekeler@wafios.de

#### REGISTRATION

Please register online at www.edpc.eu. After we have received your registration, we will send you a confirmation and an invoice, which we would ask you to settle before the event begins. In the event of cancellations received after 14 November 2023, or non-appearance, the full participation fee will be billed. However, a replacement participant can be designated. For cancellations before this date, a € 150 administration fee will be charged. Cancellations and registrations must be made in writing. The event organizer reserves the right to change the location and/or time of the whole event or individual parts of it or to alter or cancel it at short notice. Participants also have the possibility to take part online. After your registration you will receive a link to the event with our confirmation of participation. Register now for the EDPC 2023 on www.edpc.eu.

#### **CONFERENCE FEE**

|              | On-site   | Online    |
|--------------|-----------|-----------|
| Standard Fee | 1.245,00€ | 1.045,00€ |
| Reduced Fee* | 845,00€   | 845,00€   |
| One Day Fee  | 895,00€   | 745,00€   |

All prices are subject to VAT according to European regulations. 0% VAT from abroad

\* Reduced fee for international program committee members, speakers (including one paper), participating co-authors and university members and fee to be paid per additional paper.

#### **VENUE**

E|DPC 2023 will take place at the marinaforum, Johanna-Dachs-Str. 46, 93055 Regensburg

#### **ACCOMMODATION**

For your accomodation we recommend the following hotels:

#### Hampton by Hilton

Johanna-Dachs-Straße 10 93055 Regensburg Phone: +49 (0)941 307880-0

Preferential Rate: Single room 139,00 €

incl. breakfast and VAT.

#### Hotel DOCK 1

Alte Straubinger Straße 7 93055 Regensburg Phone: +49 (0)941 6009090

Preferential Rate: Single room 70,00 €, double room 90,00 € incl. VAT, excl. breakfast.

#### **Hotel Luis**

Landshuter Straße 24 93047 Regensburg Phone: +49 (0) 941 5674938

Preferential Rate: Single room 109,00 € incl. VAT, excl. breakfast.

#### **EVENING RECEPTION**

All participants of E|DPC 2023 are invited to the E|DPC 2023 Evening Reception on 29 November 2023, 7:30 PM.

Detailed technical discussions are guaranteed and accompanied by a regional menu. The event will take place at Brauhaus am Schloss, Waffnergasse 6-8, 93047 Regensburg.



#### TABLE TOP EXHIBITION

E|DPC 2023 will be completed by a focussed Table Top Exhibition. Companies, research institutes and other organizations will be offered the opportunity to present their products and services to all participants. For any further questions regarding the E|DPC 2023 Table Top Exhibition please contact Sebastian Stürzl, Phone: +49 8191 125-273, E-Mail: sebastian.stuerzl@mi-connect.de

#### **SUPPORTERS**

Are you interested in supporting E|DPC 2023 and presenting your company or organization as a sponsor? E|DPC 2023 is the ideal platform for the individual advertising of your innovative products and services. For further information, please contact Sebastian Stürzl, Phone: +49 8191 125-273, E-Mail: sebastian.stuerzl@mi-connect.de

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