ALBA 26

Bringing together
the automotive-battery value chain

Workshop on
Automotive Low-Voltage Battery Advancements

19-20 May 2026
Mainz, Germany

The ALBA Workshop series has established itself as the go-to place for automotive 12 V battery experts discussing **new battery requirements** arising from vehicle hybridization and electrification, functional safety and new power-supply topologies – as well **as improvements in battery technology** to better serve these future demands.

Why you should be at ALBA 26

- Join over 70 technology experts from all along the supply chain – from materials to vehicle.
- Gain professional experience in an active workshop atmosphere, learning by doing.
- Get the automotive system view: understand how your work supports new vehicle demands.
- Use priority access to content and tools prepared exclusively for this workshop.
- Share 92.7% participants satisfaction ("worth the time and money spent" in 2025 survey).

Key areas of the technical agenda 2026 will be

- **OEM strategies and new storage technologies:** lead or lithium or sodium or no battery?
- **Cold performance:** How to specify, test and predict charging and pulse-discharge performance of lead, lithium and sodium batteries; implications for cold winter operation?
- **Charge recovery:** State of function (SOF) recovers much faster than state of charge (SOC) when charging lead batteries: Understand the processes and maximize the SOF boost.
- Battery **selection and operation**: Tools and guidelines for 12V (24V) battery selection, sizing and operation in electrified vehicles, for example CCA sizing and charging controls.
- **Test methods** for stop/start, micro-hybrid, auxiliary and backup batteries in laboratory and vehicles: implementation, evaluation, correlations, references.
- Seminar on **new storage technologies** – Get first-hand insights of system trends and the quickly growing sodium-ion batteries! (Tuesday morning before main workshop)

The ALBA workshop series, since 2017, is bringing together experts from vehicle manufacturers, battery makers, material and component suppliers, as well as test and research laboratories, to discuss application-driven topics. This year, the international standardization expert group (IEC TC21 WG2) will meet in Mainz the day after our workshop and discuss their new 12V sodium-ion project as well as ongoing lead-battery activities. As a special opportunity right after ALBA this year, participants may visit the Advanced Automotive Battery Conference (AABC) that takes place in the same city the same week.

Bringing together global technical experts from the battery and automotive industries, ALBA is hosted by the Consortium for Battery Innovation (CBI) in close collaboration with *European Committee for Electrotechnical Standardization* (CENELEC TC21X WG3), International Electrotechnical Commission (IEC TC21 WG2), and *Battery Council International* (BCI).

Tuesday, 19 May 2026

08:30	ALBA Seminar: **New Storage Technologies** (NEW)
09:00	
09:30	
10:00	
10:30	coffee
11:00	Plenary - Welcome
11:30	ST - Storage Technology Trends OEMs - standardization - alternative technologies
12:00	
12:30	
13:00	lunch break fingerfood buffet
13:30	
14:00	Overview Cold Performance 16 express talks
14:30	
15:00	Breakout LAB @ EOL (4 posters) / Breakout SIB methods (8 posters) / Breakout BMS aspects (2 posters)
15:30	coffee
16:00	Overview LAB CP optimizations Overview SOF sizing & monitoring Overview TMV in-vehicle analysis
16:30	Breakout LAB CP2 (3 posters) / Breakout SOF sizing &monit. (demo & discussion) / Breakout TMV in-vehicle anal. (demo & disc.)
17:00	
17:15	end of day

Wednesday, 20 May 2026

08:30	Plenary CR Meissner, Furukawa, Mondoloni: SOF recovery decyphered - and why we need it
09:00	
	Overview CR part 1
09:30	Overview CR after software update Overview mild HEV & microcycling
10:00	coffee
10:30	Breakout LAB CR1 (5 posters) / Breakout CRS CR after FOTA update (3 posters) / Breakout TMH DCA for mildHEV & microcycling (4 posters)
11:00	Overview CR part 2 Overview charging guideline
11:30	Overview Best practices for std. testing
12:00	Breakout LAB CR2 (5 posters) / Breakout SOC charging guideline (4 posters) / Breakout TMS Best practices for std. testing (4 posters & disc.)
12:30	lunch break fingerfood buffet
13:00	
13:30	Roadmap Discussion what to aim for & how to join forces
14:00	participants' feedback
14:30	farewell coffee
15:00	optional **expert group discussions:** CENELEC workshop on NEXFTS exchange format & data evaluation and others (as needed)
15:30	
16:00	
16:30	
17:00	

Tuesday, 8:30 - 10:30

ALBA Seminar: New Storage Technologies		Se	
Christian Mondoloni	**OEM requirements for 12V Main Battery if Technology to move from Lead Acid to Lithium Ion or Sodium Ion**	Se01	13
Philipp Heimbucher	**A Cell Integrator's Perspective on LV Batteries**	Se08	15
Mike Miao	**China Auto Low-Volt Battery Trend**	Se02	18
Hazel Li, Rachel Du	**Introduction into SIB technology**	Se03	21
Asmae El Mejdoubi	**Power performance of sodium-ion NVPF-HC cells at high and low temperatures**	Se05	27
Shawn Peng, Yuki Nagata	**Comparative Investigation of Safety Performance: NFPP/HC vs. LFP Cells**	Se07	35
Tom Bötticher	**Sodium-ion for 12V automotive? Opportunities identified and myths debunked**	Se04	–

Tuesday, 11:10 - 13:10 Discussion Wednesday, 13:30 - 14:15

Storage Technology Trends		ST	
Rolf Naumann	**Future Vehicle Power Distribution Networks**	SO11	41
Lorenzo Zolin	**Automotive 12V batteries: Current trends, technologies, requirements, integration from a carmaker standpoint**	SO12	43
Gunnar Ledfelt	**Truck Trends, Requirements & Field Experience**	SO13	46
Bingbing Fu, Luan Yundong	**Market Trends - Focus China**	ST01	48
Luca Brisotto	**IEC Standardization Project**	ST03	51
Shawn Peng	**BCI Sodium Battery Industry Group: Building the foundation for a U.S. SIB Ecosystem**	ST02	56
Mike Miao	**12V storage technology trends China & Asia & ROW**	ST05	60
Hazel Li, Rachel Du	**Camel 12V Storage Technology and Roadmap**	ST04	63
Asmae El Mejdoubi	**Tiamat solution for automotive low-voltage applications**	ST06	67
Tom Boetticher	**Litona Na-Ion Prussian-White Cells for 12 V Automotive Batteries**	ST07	71
Benjamin Hübner	**Sodium-ion batteries made by Moll**	ST08	–
Dirk Weber	**Sodium-ion battery activities at Clarios**	ST09	–
Begüm Bozkaya	**Opportunities and Frameworks for Pre-Competitive Collaboration**	ST10	74
Matt Raiford	**CBI Battery Roadmap**	ST11	76

Tuesday, 14:10 - 15:35 Breakout Session 14:50 - 15:35

Cold Performance: PPC & CR for aged LAB		CPL	
Matt Raiford	**End-of-Life PPC & CR: introduction (CBI ALBA Plus)**	CP10	–
Koda Jones, Pritpal Singh, Nick Fuierer, Jake Armstrong	**PPC&CR Aged Battery Data Collection and Initial Analysis (CBI ALBA Plus)**	CP12	81
Yu Kunping	**EOL-PPC & CR test data**	CP24	83
Kohei Koga	**Charge Recovery Test: BOL vs MOL for JIS-type flooded batteries**	CP26	85
Ian Wolfe	**End-of-Life Charge Recovery & Pulse Power Characteristics**	CP11	90

Tuesday, 14:10 - 15:35 — Breakout Session 14:50 - 15:35

Cold Performance: test methods for LIB, SIB		CPN	
Roger Zimmermann, Nadia Koch, Eckhard Karden	LAB ultra-low temperature peak performance: experimental parameters and reference data (CBI ALBA Plus)	CP17	94
Hazel Li	Pause duration evaluation for relaxation in PPC test	CP13	96
Rachel Du	PPC performance of different SIB cell types and designs	CP27	98
Guang He *, Zhang Huan *	Icc and PPC example data for Tianneng 12-volt sodium batteries	CP28	–
Yukiyasu Nagata	PPC & CR test data SIB (cell vs. battery)	CP15	100
Tom Bötticher	CCA and PPC with SIB cells at varied temperature and SOC	CP19	102
Jonathan Wirth	Cold performance testing of aftermarket sodium 12V batteries (ALBA Plus)	CP14	104
Paul Everill	Sodium cell benchmarking in AUX applications	CP16	106

Tuesday, 14:10 - 15:35 — Breakout Session 14:50 - 15:35

Cold Performance: BMS aspects		CPS	
Markus Föhlisch	Benchmark analysis of commercially available 12V SIB	CP25	112
Danila Viglione	12V BMS - Beyond Batteries: From monitoring to system integration	CP23	114

Tuesday, 16:00 - 17:15 — Breakout Session 16:30 - 17:15

Cold Performance: optimization for SOF		CP2	117
Abel Sy	Stratosphere AGMe: A PE-based separator enhancing cold performance and energy density in VRLA batteries	CP21	119
Luke Salzer, Carter Abney	Initial analysis of developmental lignosulfonates for lead battery applications	CP22	124
Alan Perez, Michael Verde	Measuring auxiliary battery SOH using Electrochemical Impedance Spectroscopy (EIS)	CP18	126

Tuesday, 16:00 - 17:15 — Breakout Session 16:30 - 17:15

SOF sizing & monitoring		SOF	129
Bernd Engwicht	Why to use the tool well known as PPC Sizing Tool?	SO16	131
Jonathan Wirth	PPC Tool v2: more sizing & selection functions for OEM & application engineers (ALBA Plus)	SO15	133
Yukiyasu Nagata	PPC and SOF prediction for complex load profiles: SIB vs. LAB	SO17	135
Yu Kunping	PPC Tool: Survey results of Chinese OEMs	SO18	136
Rolf Naumann	Future vehicle battery monitoring for different system demands	SO19	138

Tuesday, 16:00 - 17:15 — Breakout Session 16:30 - 17:15

In-vehicle analysis of battery operation		TMV	138
Eckhard Karden	Dual battery symmetry investigation: introduction (ALBA Plus)	TM23	140
Kemal Yalim	analyzing vehicle operation: logger setups for I,U,T	TM24	141
Roger Zimmermann	analyzing vehicle operation: results (CBI ALBA Plus)	TM25	–

7 May, 15:00 - 16:00 CEST — available for streaming until 30 June

Webinar 1: SOF Recovery	
Eberhard Meissner	**Structures and mechanisms that govern SOF Recovery**
Miguel Garcia	**Elevated Potential plateau: Summarizing experimental findings**
Jibo Zhang	**PAM pseudo-capacitance: Summarizing experimental findings**

Wednesday, 8:30 - 9:15

Charge Recovery - plenary session		CRP	149
Eberhard Meissner	**Understanding PbO2 structure: fast SoF recovery @ PSoC - bottom-up analysis and hypotheses on 'improved' DIScharge Characteristics**	CR11	151
Jun Furukawa	**Electrochemical double-layer capasitance and pseude-capacitance in negative electrode of the UltraBattery**	CR12	171
Christian Mondoloni	**Use cases for psdeudo-capacitance and potential plateau**	CR21	175

Wednesday, 9:15 — Breakout Session 10:20 - 11:05

Charge Recovery part 1: mechanisms & structures		CR1	
Miguel García García, Jesús Valenciano, Luca Brisotto	**Enhanced SoF in auxiliary batteries: Voltage plateau evaluation**	CR13	177
Abderrezak Hammouche*, Nadine Dehnert, Eckhard Karden	**charge peak absorption: How robust is voltage quality assured?**	CR14	181
Yu Kunping	**Research on the Charging Recovery ability after deep discharge**	CR29	182
Jonathan Wirth	**SOF recovery parameters during simulated driving (CBI ALBA Plus)**	CR15	185
Jochen Settelein	**Pseudocapacitive effects of cell geometry and rest phases**	CR16	187

Wednesday, 11:05 - 12:30 — Breakout Session 11:45 - 12:30

Charge Recovery part 2: optimizations		CR2	
Abel Sy, Paul Everill, Eric Miller	**Combining separator and active mass improvements to augment Charge Recovery**	CR22	193
Plamen Nikolov, Maria Matrakova, Albena Aleksandrova, Lilia Stoimenova	**Impact of PAM charge potential, SoC recovery levels and relaxation time on SoF performance during Charge Recovery testing**	CR18	199
Markus Föhlisch, Jochen Settelein	**NAM recipe optimization - hands-on experience**	CR25	205
Jibo Zhang, Campbell Matthews, John Wertz, Shane Christie	**Optimizing voltage distribution in Charge Recovery by GEM negative electrodes**	CR26	207
Pascual García Pérez	**Charge Recovery in the positive active mass through synthetic and expanded graphite addition**	CR24	214

Wednesday, 9:30 — Breakout Session 10:20 - 11:05

Charge Recovery after software updates		CRS	219
Christian Mondoloni	**Recap of additional Charge Rrecovery tests launched on LAB**	SO21	221
Hürkan Catalkaya, Eckhard Karden Christian Mondoloni	**Repetitive Charge Recovery of fresh / fresh+FOTA and Aged LN3 AGM Batteries**	SO22	223
Rodrigo Cavendish, Emmily Nascimento, William Pinheiro	**CR and SOF behavior in LABs under advanced operating conditions**	SO23	227

Wednesday, 9:30 — Breakout Session 10:20 - 11:05

DCA and microcycling		TMH	
Yasmin Eustáquio, Rodrigo Cavendish, Grace Rocha, André Candido, William Pinheiro	**12V mild hybrid - use case and battery requirements, EFB results**	TM21	231
Campbell Matthews, Shane Christie	**12V mild hybrid - DCA run-in test**	TM22	233
Jibo Zhang, John Wertz	**12V mild hybrid - DCA run-in test, AGM results from 2V cells**	TM27	234
Torsten Hildebrandt	**Do we need a shallow-cycling test (MHT) for small batteries in 2-wheelers or auxiliary applications?**	TM15	240

Wednesday, 11:20 — Breakout Session 11:45 - 12:30

Battery Operation Guidelines		SOC	
Jörg Tiburcy, Roger Zimmermann, Eckhard Karden	**Recommendation for 12V charging strategy in BEV – new chapters (CBI ALBA Plus 2025)**	SO24	249
Benjamin Hübner	**water consumption / Z curve**	SO27	–
Jörg Tiburcy	**Drive cycle simulation at IBR: Charging recommendation for high temperature (CBI ALBA Plus 2025)**	SO26	251
Sebastian Mauer	**Comparing charging strategies in simulated driving cycles: low temperature**	SO25	257

Wednesday, 11:20 — Breakout Session 11:45 - 12:30

Best practices for standard test methods		TMS	
Torsten Hildebrandt	**Best practices: Battery test Standards per region**	TM14	264
Prince Elmer Reyes *	**Best practices for battery testing: compilation of international/regional standard test procedures for car and motorcycle batteries**	TM11	267
Torsten Hildebrandt	**Neutral EXchange Format for battery Test Sequences (NEXFTS) - Exchanging test programs without errors or worries**	TM13	268
Yu Kunping	**50% DOD test with low charging voltage**	TM16	–

Wednesday, 13:30 - 14:15 — Participants Feedback 14:15 - 14:30

Roadmap Discussion		
moderator: Matt Raiford	♦ **KPIs for automotive batteries 2030**	–
	♦ **Opportunities and frameworks for pre-competitive collaboration**	–