

**Advanced Automotive Battery Technology,
Application and Market International
Symposium (AABTAM 2015) and
Stationary Energy Storage System
Technology, Application and Market
Symposium (SESSTAM 2015)**

Held at AABC Europe 2015

Mainz, Germany
28-29 January 2015

ISBN: 978-1-5108-1148-5

Printed from e-media with permission by:

Curran Associates, Inc.
57 Morehouse Lane
Red Hook, NY 12571



Some format issues inherent in the e-media version may also appear in this print version.

Copyright© (2015) by Cambridge EnerTech
All rights reserved.

Printed by Curran Associates, Inc. (2015)

For permission requests, please contact Cambridge EnerTech
at the address below.

Cambridge EnerTech
Cambridge Innovation institute
250 First Avenue
Suite 300
Needham, MA 02494
USA

Phone: 781-972-5400
Fax: 781-972-5425

ce@cambridgeenertech.com

Additional copies of this publication are available from:

Curran Associates, Inc.
57 Morehouse Lane
Red Hook, NY 12571 USA
Phone: 845-758-0400
Fax: 845-758-2634
Email: curran@proceedings.com
Web: www.proceedings.com

TABLE OF CONTENTS

MARKET ACCEPTANCE OF xEVs IN EUROPE, THE U.S. AND JAPAN	1
<i>M. Lord</i>	
EV-BATTERIES & MATERIALS AND BESS-BATTERIES & MATERIALS IN THE CHINESE MARKET	23
<i>H.-L. Lu</i>	
LITHIUM-ION BATTERY MARKET: EXPANSION BEYOND CONSUMER AND AUTOMOTIVE	31
<i>C. Pillot</i>	
TESLA MOTORS, THE GIGAFACTORY, AND THEIR IMPACT ON THE XEV INDUSTRY	41
<i>M. Andeman</i>	
GERMAN ROADMAP FOR BATTERY TECHNOLOGIES FOR ESS – R&D TRENDS AND MARKET DEVELOPMENT	54
<i>A. Thielmann</i>	
14V MICRO-HYBRID SYSTEMS UPDATE	68
<i>E. Karden</i>	
DYNAMIC CHARGE ACCEPTANCE AND WATER CONSUMPTION OF LEAD-ACID BATTERIES OPTIMIZED FOR μ-HYBRID APPLICATION	74
<i>L. Brisotto, O. Sielemann</i>	
APPLICABILITY OF ADVANCED LEAD-CARBON TECHNOLOGY IN A 48V DIESEL MILD-HEV	90
<i>U. Stenzel</i>	
ANALYSIS OF OPTIMAL 12V LI-ION BATTERY REQUIREMENTS FOR THE EU MARKET BY VEHICLE SEGMENT	95
<i>L. Alger</i>	
LOW-VOLTAGE DUAL BATTERY SYSTEMS UTILIZING LTO ANODES	104
<i>K. Ishiwa</i>	
LTO AND LFP CHEMISTRIES FOR 14V SYSTEMS	112
<i>C. Fehrenbacher, J. Kessen, A. Duren</i>	
HV-BATTERY ON ITS WAY TO BECOMING A COMMODITY - BOUNDARIES AND OPPORTUNITIES FOR AN OEM	122
<i>J. Duda</i>	
THE HIGH VOLTAGE BATTERY OF THE BMW PLUG-IN HYBRID CONCEPT X5 EDRIIVE	137
<i>F. Moebius</i>	
ADVANCES IN HIGH-ENERGY DENSITY LITHIUM-ION POLYMER BATTERY FOR PHEV & EV	150
<i>S. Choi</i>	
ENGINEERING ROADMAP FOR PHEV BATTERY PACKS	157
<i>P. Pichler</i>	
XEV BATTERY TECHNOLOGY STATUS AND ADVANCES	164
<i>M. Anderman</i>	
THE TESLA MODEL S BATTERY - A BATTERY PACK ANALYSIS STUDY	177
<i>V. Hennige</i>	
INFRASTRUCTURE CHALLENGES FOR BEVS AND FCEVS	191
<i>J. Wind</i>	
OEM PERSPECTIVE ON BATTERY SUPPORT FOR LIFETIME: REPAIR REFURBISHMENT RE-USE RECYCLE	200
<i>R. Matthé</i>	
INDUCTIVE CHARGING – TECHNOLOGICAL CHALLENGES AND THE STATUS OF STANDARDIZATION	214
<i>M. Scholz</i>	
TRANSPORTATION OF LARGE LITHIUM-ION BATTERIES: ISSUES AND CURRENT REGULATIONS - INDUSTRIAL OVERVIEW	222
<i>F.-A. Polonius</i>	
STABALID - STATIONARY BATTERIES LI-ION SAFE DEPLOYMENT	232
<i>B. Caillard</i>	
ASPECTS OF VEHICLE ELECTRIFICATION AND LARGE STATIONARY STORAGE SYSTEMS	247
<i>B. Stahlschmidt</i>	

OPERATION METHODS FOR VEHICLE TO GRID - EU PROJECTS SMARTV2G AND MOBINCITY	256
<i>A. Varesi</i>	
PELLWORM ISLAND ENERGY-STORAGE SYSTEM PROJECT (REDOX FLOW/LI-ION)	264
<i>T. Blank</i>	
THE MODULAR ENERGY STORAGE SYSTEM FOR A RELIABLE POWER SUPPLY	277
<i>W. Weydanz</i>	
THE AUTOMOTIVE PLATFORM FOR STATIONARY-BATTERY STORAGE	290
<i>A. Rueckemann</i>	
TECHNOLOGY AND ITS ADVANCE OF THE LARGE FORMAT ENERGY STORAGE BATTERY SYSTEMS	296
<i>H. Malenda</i>	
RESIDENTIAL BATTERY SYSTEMS - OPERATING CONTROL STRATEGIES BEYOND SELF-CONSUMPTION	310
<i>M. Vetter</i>	
EXPERIENCE WITH ESS SYSTEMS IN THE FIELD	325
<i>A. Piepenbrink</i>	
LAB FOR SMALL DECENTRALIZED ENERGY-STORAGE SYSTEMS	333
<i>B. Riegel, G. Langer, E. Cattaneo</i>	
MODULAR SCALABLE STORAGE SOLUTIONS BASED ON LFP TECHNOLOGY	338
<i>A. Hirnet</i>	
VALUE OF LONG DURATION ENERGY STORAGE AND RENEWABLES	349
<i>M. Hermes</i>	
Author Index	