

# **19th International Lead Conference (Pb 2015)**

Lisbon, Portugal  
22-24 April 2015

ISBN: 978-1-5108-1150-8

**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 the International Lead Association (ILA)  
All rights reserved.

Printed by Curran Associates, Inc. (2015)

For permission requests, please contact the International Lead Association (ILA)  
at the address below.

International Lead Association (ILA)  
Bravington House  
2 Bravingtons Walk, London N1 9AF  
United Kingdom

Phone: +44 (0)20 7833 8090  
Fax: +44 (0)20 7833 1611

[enq@ila-lead.org](mailto:enq@ila-lead.org)

**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](mailto:curran@proceedings.com)  
Web: [www.proceedings.com](http://www.proceedings.com)

# TABLE OF CONTENTS

## **SESSION 1: THE GROWTH OF LEAD AND FUTURE MARKET PROSPECTS**

<b>Keynote Paper: The Growth for Lead and Future Market Prospects</b> .....	1
<i>Ray Kubis</i>	
<b>Facts, Forecasts and Fundamentals</b> .....	21
<i>Paul White</i>	
<b>Does the Global Lead Market Need More Mine Supply?</b> .....	43
<i>Huw Roberts</i>	
<b>E-bikes and New Battery Technology: Pulling the Market in Two Directions?</b> .....	50
<i>Farid Ahmed</i>	
<b>A Suppliers Perspective of the Global Lead-Battery Market</b> .....	62
<i>Doug Lambert</i>	
<b>ALABC Moving Forward: Building on a Dynamic Past</b> .....	86
<i>Tim Ellis, Boris Monahov</i>	

## **SESSION 2: SUSTAINABILITY – DOES LEAD HAVE A ROLE IN THE 21ST CENTURY?**

<b>Highlighting the Sustainability Credentials of Lead</b> .....	94
<i>Alistair Davidson</i>	
<b>The EU Circular Economy and the Roadmap for a Resource Efficient Europe</b> .....	97
<i>Jose Rizo</i>	
<b>Environmental Benefits of Lead in Selected Applications Using Life Cycle Assessment</b> .....	110
<i>Johannes Gediga</i>	
<b>Umicore's Journey to Sustainability</b> .....	127
<i>Guy Ethier</i>	
<b>Sustainable ULAB Recycling in the Developing World – Meeting the 21st Century Challenge</b> .....	140
<i>Brian Wilson</i>	
<b>Lead Risk Management in the Lead-Acid Battery Manufacturing and Recycling Industries in China</b> .....	195
<i>Yeo Lin</i>	
<b>The Innovation Development of Chunxing's Secondary Lead Technology</b> .....	215
<i>Yang Chunming</i>	

## **SESSION 3: HOW EFFECTIVE COMMUNICATIONS CAN HELP THE LEAD INDUSTRY**

<b>Industry Communications Initiatives on Lead and Lead Batteries</b> .....	230
<i>Andy Bush</i>	
<b>Battery Manufacturing as a Modern Industry – Concept for Increasing the Attention on Electrochemical Energy Storage in the Public and Political Domain</b> .....	233
<i>Otmar Frey</i>	
<b>7 Myths of Reputation Management, and How to Overcome Them</b> .....	255
<i>Tammy Stankey</i>	
<b>Putting the Record Straight – The Value of Communication Campaigns in Educating and Improving Reputation</b> .....	278
<i>James Stevens</i>	

## **SESSION 4: OUTLOOK ON THE REGULATORY ENVIRONMENT**

<b>Global Trends in Regulations on Lead</b> .....	293
<i>Steve Binks</i>	
<b>The Impact of the ELV End-of-Life Directive on the Lead Industry</b> .....	298
<i>Alistair Davidson</i>	
<b>Lithium Ion Battery Identification and Safety Issue in Lead Recycling</b> .....	303
<i>Karsten Kurz, Steve P. Binks</i>	

<b>Regulatory Developments Impacting Marine Transport of Lead Concentrates .....</b>	<b>313</b>
<i>Paul Kolisnyk</i>	
<b>Sustainable Remediation of Lead Impacted Sediments in an Ecologically Sensitive Area.....</b>	<b>319</b>
<i>Jan Van Linden</i>	
<b>New Tools for Environmental Risk Assessment and Quality Standard Compliance for Lead .....</b>	<b>330</b>
<i>Jasim Chowdhury, Robert Santore, F. Verdonck, K. Oorts, P. Van Sprang</i>	
<b>Author Index</b>	