

# Electronics in Harsh Environments Conference

Tuesday, 23 May

\*All Presentations Take Place in SKY 3

TIME	Location	
8:00 - 18:00	SKY Foyer	REGISTRATION
8:15 - 8:30		Introduction & Welcome Message Keith Bryant, SMTA Europe; Mike Bixenman, MBA, DBA, Magnalytix
		CONFERENCE DAILY KEYNOTE
8:30 - 9:30		The Remarkable Return of Post-Reflow Cleaning as a Mainstream Process to Improve Reliability Mike Konrad, Aqueous Technologies
9:30 - 10:00	SKY 2	REFRESHMENT BREAK WITH EXHIBITORS
		Session 1: Electronics in Harsh Environments
10:00 - 10:30		Risk Prediction of Electrochemical Migration on Electronic Control Units - A Statistica Approach Lothar Henneken, Ph.D., Robert Bosch GmbH
10:30 - 11:00		A Mechanistic Insight into the Correlation of Water Layer Build-up on a PCBA Surface with Electro-Chemical Migration and Subsequent Dendrite Formation A.R. Lakkaraju, Technical University of Denmark
11:00 - 11:30		Partial Discharge Measurements and Electrical Fatigue in Insulation Materials Martin Wickham, National Physical Laboratory UK
11:30 - 12:30	Restaurant Romeo	LUNCH BREAK
		Session 2: Soldering Materials for Ruggedized Electronics
12:30 - 13:00		Optimized Materials to Deliver Ruggedized Electronics Lenora Clark, MacDermid Alpha Electronics Solutions
13:00 - 13:30		Ensuring High Quality by Accelerating the Reliability Testing of Home Appliance Boards for Simulating Harsh Environments Önder Süneci, Arçelik
13:30 - 14:00		Managing Thermochemical Behavior in Automotive Electronics Marice Dore, Valeo
14:00 - 14:30		Recent Developments in Low Temperature Solders and the Challenge of Harsh Environments Ron Lasky, Ph.D., P.E., Indium Corporation
14:30 - 15:00	SKY 2	REFRESHMENT BREAK WITH EXHIBITORS
		Session 3: Acceptable Levels of Flux and Process Residues
15:00 - 15:30		An Efficient and Innovative Cleaning Solution with Low Environmental Impact Jonathan Cetier, Inventec Performance Chemicals
15:30 - 16:00		Cleaning Process Simulation by Glass Test Boards Vladimir Sitko, PBT-Works s.r.o
16:00 - 16:30		The Use of Accelerated Electrochemical Testing for Electronic Assembly Process Control Mike Bixenman, DBA, KYZEN Corporation
16:30 - 18:00		Welcome Reception Join us for a complimentary drink and light appetizers as we kick off the conference!

**Wednesday, 24 May****\*All Presentations Take Place in SKY 3**

TIME	Location	
	SKY Foyer	REGISTRATION
		<b>CONFERENCE DAILY KEYNOTE</b>
8:00 - 9:00		<b>Electronic Hardware in Space: Failure Avoidance is Critical to Success Missions</b> Erwann Peraud, European Space Agency
		<b>Session 4: Protective Barriers Against Corrosion Failures on PCBs</b>
9:00 - 9:30		<b>Protective Coating of Electronics - Defect Root Causes, Failure Mechanisms and Quality Evaluation Tools</b> Markus R. Meier, Ph.D., ZESTRON Europe
9:30 - 10:00		<b>Development of Polyurethane-based Coatings against Corrosion of Electronics - A Parametric Study of Compatibility with Wave Soldering Flux</b> Ioannis Mantis, Technical University of Denmark
10:00 - 10:30	SKY 2	<b>REFRESHMENT BREAK WITH EXHIBITORS</b>
10:30 - 11:00		<b>Multilayer Atomic Layer Deposition / Polyurethane Conformal Coating for Corrosion Protection of Electronics and Components</b> Rakesh Kumar, Ph.D., Specialty Coating Systems
11:00 - 11:30		<b>Conformal Coatings – A Study of Coating Types and Sharp Edge Coverage, with New Designs to Overcome Current Shortcomings</b> Chris Brightwell, Humiseal Europe
11:30 - 12:00		<b>Conformal Coating in All Their States</b> Marie Kaing, Abchimie
12:00 - 13:00	Restaurant Romeo	<b>LUNCH BREAK</b>
		<b>Session 5: Solder Joint Reliability in Harsh Environments</b>
13:00 - 13:30		<b>High-Reliability Lead-Free Solder for Electronics in Automotive Applications</b> Priitha Choudhury, Ph.D., MacDermid Alpha Electronics Solutions
13:30 - 14:00		<b>Acceleration Life Comparison of Solder Joint with Temperature Deviation under Thermal Cycling</b> Won Sik Song, Ph.D., Korea Electronics Technology Institute
		<b>Session 6: Predicting PCBA Failures Under Humidity Conditions</b>
14:00 - 14:30		<b>Machine Learning for Predicting PCBA Failures under Humidity Conditions</b> Sajjad Bahrebar, Technical University of Denmark
14:30 - 15:00		<b>Optical Analysis of Dew Formation on PCB by CNN for the Validation of Electrical Signals</b> Quang-Duc Pham, Robert Bosch GmbH
15:00 - 15:30		<b>Safe Operation Boundaries for PCBA under Climatic Conditions Based on Analysis of LC and ECM Data</b> Rajan Ambat, Technical University of Denmark
15:30 - 16:00	SKY 2	<b>REFRESHMENT BREAK WITH EXHIBITORS</b>
		<b>Session 7: Design for Cleaning</b>
16:00 - 16:30		<b>Design for Cleaning: How Can the Designer Help to Make Cleaning Assemblies Easier</b> Vladimir Sitko, PBT-Works
16:30 - 17:00		<b>Electronic Assembly Process and Material Considerations to Enable Reliable Performance in Harsh Environments</b> Tom Forsythe, Magnalytix, LLC
17:00		<b>END OF DAY TWO</b>

**Thursday, 25 May****\*All Presentations Take Place in SKY 3**

TIME	Location	
	Foyer	REGISTRATION
		<b>Professional Development Course</b> *This course is included in all conference registrations
8:30 - 12:00		<b>Climatic Effects on Electronics and Prevention Strategies</b> Rajan Ambat, Technical University of Denmark
12:00	Restaurant Romeo	<b>SEND OFF LUNCH</b>
13:00		<b>CONFERENCE ENDS</b>