



## May 2012 Newsletter

[DfR Attends ARS](#) | [DfR Supports NASA](#)

### Hey Dude - Someone Cratered my Pad

Pad cratering, the cracking of laminate during a dynamic mechanical event such as ICT testing, has become increasingly prevalent with the use of Pb-free solders and migration to larger components. [Cheryl Tulkoff](#), a recognized industry expert, recently provided comprehensive training on this topic to a sold out web-based audience. If you would like the course ([a portion provided here](#)) presented to your organization, please contact [Cheryl Tulkoff](#).

### The Early Bird Catches the Worm

Randy Schueller recently gave a presentation entitled "[Physics of Failure: Electronics Reliability Assurance Modeling](#)" to the Minnesota Reliability Consortium. His presentation describes how DfR's [Sherlock Automated Design Analysis™ Tool](#) is a cost effective way to assess the reliability of a product during the design phase. For more information, contact [Randy Schueller](#).

### Don't Sell Your Gold

Read the Craig Hillman's column in the [May issue of Global SMT and Packaging](#) (you will need to register) to learn more about some of the risks with copper wire bonding. To learn more about this new technology and how to protect yourself and your company, contact [Randy Schueller](#).

### Using QFNs in Automotive Electronics

QFNs, also known as Flat No Lead (FNL) parts, are prized for small foot print, thin profile and excellent thermal performance. However, concerns arise with their durability and reliability in the demanding harsh environments of automotive electronics. In [this insightful presentation](#), [Jim McLeish](#) discusses the reliability related concerns and challenges of these devices from a Physics of Failure (PoF) point of view and identifies tools for evaluating when these devices are suitable for automotive applications. For more information, contact [Jim McLeish](#).

### Super-Robot Leaps Building in a Single Bound!

## Sherlock

[Automated Design Analysis™](#)



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**2012 Medical Electronics Symposium**

**September 26-27, 2012**

**Arizona State University, Tempe Campus**

MEPTEC and SMTA are again partnering to present a two-day [Medical Electronics Symposium](#) which will cover a broad spectrum of topics highlighting innovative technologies and related issues in medical electronic applications and devices.

Advancement in robotics continues to amaze and impress and none more so than the [Sand Flea robot](#). Imagine the shock loads as it takes off and especially when it lands! Have a similar problem? Contact [Nathan Blattau](#) for information on our simulation and modeling capabilities, including our own [Automated Design Analysis™ software](#).

## DfR News

### DfR Attending Applied Reliability Symposium (New Orleans, June 13)

[Tom O'Connor](#) and [Jim McLeish](#) will be attending, presenting, and hosting a booth at the [Applied Reliability Symposium](#) (ARS), the premium reliability conference in North America. You will definitely not want to miss Jim McLeish's ground-breaking presentation, "The Transition from MTTF Reliability Predictions into Physics of Failure Reliability Assessments." For more information or to arrange a meeting with either Tom or Jim, please contact [June Caswell](#) or stop by our booth.

### DfR Solutions Selected to Support NASA Safety and Mission Assurance

Due to our well-regarded expertise in reliability and risk assessment, understanding of EEE part technology, and knowledge of the specific challenges of space flight, DfR, as part of a larger team led by [ARES Corporation](#), was [recently selected](#) to support the [NASA Goddard Safety and Mission Assurance Directorate](#). This contract encourages NASA, its personnel and its contractors to work closely with DfR on any issues related to safety and mission assurance. If you would like a better understanding of DfR's capabilities in these areas and how we can help you reach your mission objective, please contact [Walt Tomczykowski](#).

## Upcoming Events

### Google Calendar

Look for DfR at upcoming events, conferences, webinars, and sales visits that may be in your area on our new [link to Google Calendar](#). For more information on a specific activity, please contact [June Caswell](#).

### Avionics Maintenance Conference (Anchorage, AK: April 30-May3)

[Walt Tomczykowski](#) attended this critical industry conference. His presentations on how DfR's revolutionary [Automated Design Analysis™ software](#) could be used to avoid or mitigate many of the issues identified and discussed at the conference was received with great interest



Design and testing services for IC, ASIC, PCB and MEMS. Sensing Machines provides engineering consulting services to transition your ideas from concept to hardware. We help small and large companies perform R&D as well as bring products to market. Visit our [website](#) or send an [email](#) for an overview of our capabilities.

throughout the supply chain (box build, system assembler, end user).

### **DfR Solutions in Benelux (May 3-4)**

[Cheryl Tulkoff](#) and [Petri Savolainen](#) visited several companies and clients throughout Belgium and Netherlands and discussed DfM, Root-Cause Analysis, and Product Qualification Testing. If you missed Cheryl and Petri and would like to arrange a visit to your Benelux location at a later date, please contact our [European Office](#).

### **DfR Solutions in China (May 7-9)**

[Petri Savolainen](#) performed an audit of several suppliers of liquid crystal displays (LCDs) in the Shanghai and Beijing regions of China. If you would like to take advantage of DfR's unique ability in performing technical audits of component suppliers (including PCB, LCD, optics, and capacitors), please contact [Ed Dodd](#).

### **DfR Solutions in Germany (May 7-11)**

[Cheryl Tulkoff](#) and [Viktor Tiederle](#) visited several companies and clients throughout Germany and discussed the documented value of [Sherlock](#) to the automotive and avionics industries. If you missed Cheryl and Viktor and would like to arrange a visit to your German location at a later date to discuss [Sherlock](#), please contact [Viktor Tiederle](#).

### **SMT Hybrid Packaging Conference (Frankfurt, Germany: May 10)**

[Cheryl Tulkoff](#) presented a half-day tutorial on Design for Reliability and Sourcing of Printed Circuit Boards ([abbreviated version offered here](#)) and participated on a panel discussion on the 'Reliability of Power Modules.' For more information, please contact [Cheryl Tulkoff](#).

### **DfR Solutions in Michigan (MI: May 14-18)**

[Craig Hillman](#), [Jim McLeish](#), and [Tom O'Connor](#) visited companies and clients throughout Michigan and discussed how [Automated Design Analysis](#)™ can improve the product development process and reduce warranty returns. If you missed us and would like to arrange a visit to your Michigan location at a later date to discuss Sherlock, please contact our [Michigan office](#).

### **DfR Solutions in Toronto (Toronto, ON: May 14-18)**

[Greg Caswell](#) visited several companies and clients throughout the Toronto and discussed [Automated Design Analysis](#)™, electronics manufacturing, MEMS technology, and component packaging. If you missed Greg and would like to arrange a visit to your Ontario location at a later date, please contact our [Michigan office](#).

### **DfR Solutions in France (France: May 14-18)**

[Petri Savolainen](#) visited several companies and clients throughout France and discussed [Automated Design Analysis™](#), electronic packaging, Pb-free, and liquid crystal displays. If you missed Petri and would like to arrange a visit to your French location at a later date, please contact our [European Office](#).

### **PERM (Marseilles, France: May 15-16)**

[Petri Savolainen](#) presented at the PERM meeting at Eurocopter in Marseilles, France. His presentation will be on "The Experience of Nokia with Pb-free Technology." For more information on this topic, please contact [Petri Savolainen](#).

### **Int. Conf. Soldering and Reliability (Toronto, ON: May 15-19)**

[Greg Caswell](#) presented "The Effect of Coating and Potting on the Reliability of QFN Devices." For more information on this topic, please contact [Greg Caswell](#).

### **DfR in Huntsville (Huntsville, AL: May 21-23)**

[Craig Hillman](#) and [Cheryl Tulkoff](#) visited companies in the Huntsville area and discussed DfR, DFM, Root-Cause Analysis, and Component Life Prediction (capacitors, LEDs, and FPGAs). If you and your associates are interested in an onsite visit and/or presentation, please contact [June Caswell](#).

### **Applied Reliability Symposium (New Orleans, LA: June 13-15)**

[Jim McLeish](#) will present "The Transition from MTTF Reliability Predictions into Physics of Failure Reliability Assessments" at the [2012 Applied Reliability Symposium, North America](#). For more information, contact [Jim McLeish](#) or stop by the DfR booth.

### **DfR Webinar (June 28, 11:00 a.m. EDT)**

[Gregg Kittlesen](#) will be presenting this informative webinar on Plated Through Hole (PTH) Reliability. For more information or to register, please contact [Gregg Kittlesen](#).

### **DfR/ASQ Reliability Webinar (July 12, 12:00 noon EDT)**

[Cheryl Tulkoff](#) will be presenting "Obsolescence Management and the Impact on Reliability." For more information on this special presentation contact [Cheryl Tulkoff](#).

### **DMSMS (New Orleans, LA: August 27-30)**

[Walt Tomczykowski](#) will be attending this key conference as the lead for System Supportability. Walt will have time to visit with customers at the

conference. To arrange a time to meet with Walt, contact [June Caswell](#).

### **DfR in Australia (September 2-17)**

[Craig Hillman](#) will be visiting companies and clients in Sydney, Australia, and is available to discuss a wide range of topics, including system-level reliability assurance, reliability management, and customer satisfaction. If you are interested in having Craig visit your facility, contact [June Caswell](#).

### **ISO 26262 Conference (Stuttgart, Germany: September 12-14)**

[Petri Savolainen](#) and [Viktor Tiederle](#) will be presenting DfR's solution to the challenge of ISO 26262 requirements. If you would like more information, please contact our [European Office](#).

### **DfR in New England (September 17-21)**

[Nathan Blattau](#) and Ed Dodd will be visiting companies and clients throughout the New England area and will be available to discuss a wide range of topics, including failure analysis, simulation and modeling, and component selection. For more information or to arrange a visit to your facility, please contact [June Caswell](#).

### **Design East 2012 (Boston, MA: September 19)**

[Nathan Blattau](#) will be presenting on Common Hardware Mistakes by Embedded System Designers. For more information on this presentation, please contact [Nathan Blattau](#).

### **SMTAI Conference (Orlando, FL: October 14)**

[Cheryl Tulkoff](#) will be teaching two courses at SMTAI this year. Pad Cratering - Prevention, Mitigation and Detection Strategies will be presented on the morning of Monday, October 15th. A New and Better Approach to Tin Whisker Mitigation will be presented the afternoon of Monday, October 15th. For more information, please contact [Cheryl Tulkoff](#).

### **NEBS Conference (Las Vegas, NV: October 23-24)**

DfR will be attending this critical conference on qualifying product for the Verizon supply chain. If you would like to meet with us during the conference, please contact [June Caswell](#).

### **IPC Medical Sector Conference (Andover, MA: November 6-8)**

At this ground-breaking conference, [Craig Hillman](#) will speak on the upcoming challenges of RoHS and Medical Devices. For more information, please contact [Craig Hillman](#).

### **IPC SMTA Cleaning and Conformal Coating Conference (Chicago,**

IL: November 13-15)

Don't miss a technical session for the ages. DfR Solutions has put together all the heavyweights of nanocoating technology into one room, including Ross Technology, Semblant, P2I, GVD, and HzO. Watch in awe as they throw down the gauntlet to see whose technology deserves to be called 'Best of the Best.' Who will come out the winner? You decide, but only if you are there! For more information, contact [Craig Hillman](#).

## Employment

### **Manufacturing Quality Engineer (full-time)**

Manufacturing quality subject matter experts (SME) are needed to support the Department of Defense (DoD) in the area of systems engineering. This position will be onsite at government locations in the Washington, DC, and Northern VA area. US Citizenship is required. Must have an active security clearance (within the past two years). Travel is required 25% to 50% of the time. The SME develops, modifies, applies and maintains manufacturing and quality guidance and policy applicable to DoD weapon systems; incorporates design for affordability concepts into the manufacturing process; collaborates with reliability and logistics organizations within the DoD to ensure manufacturing guidance supports the objectives of DoD Instruction 5000.02, Operation of the Defense Acquisition System; and conducts manufacturing readiness assessments at prime contractor locations.

For more information, including how to apply, please visit our [website](#).

### **Reliability and Maintainability Engineer (full-time)**

DfR Solutions is looking for a full-time system engineers with 10+ years of DoD acquisition experience and a strong reliability and maintainability background to work in the DC/VA area. Must have 10+ program/project management experience. US Citizenship is required. Must have an active security clearance (within the past two years).

Reliability and Maintainability (R&M) subject matter experts (SME) are needed to support the Department of Defense (DoD) in the area of systems engineering for land and sea systems. This position will be onsite at government locations in the Washington, DC, and Northern VA area. Travel is required 25% to 50% of the time. The SME develops, modifies, applies and maintains reliability guidance and policy (DTM 11-003) applicable to DoD weapon systems; incorporates design for reliability in the acquisition life cycle; collaborates with reliability and logistics organizations within the DoD to ensure reliability guidance supports the objectives of DoD Instruction 5000.02, Operation of the Defense

Acquisition System; and conducts program support reviews (focused on reliability and maintainability) at prime contractor locations.

For more information, including how to apply, please visit our [website](#).

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