



June 2012 Newsletter

[Sherlock 2.6 Released!](#) | [DfR ISO Certified](#)

Randy Schueller Running for SMTA Board

Our very own [Dr. Randy Schueller](#) is running for the Board of Directors of the SMTA. If you are an SMTA member, please vote for Randy.

How Many Ways Can You Mess Up a Circuit Board?

Cheryl Tulkoff presented a four (4) hour course entitled "Design for Reliability and Sourcing of Printed Circuit Boards." This course presents insight into the issues with circuit boards, components, materials, and manufacturing that can impact a reliable circuit board configuration, demonstrating DfR's deep knowledge of this topic. Here's a [short element](#) of the course for you to download. If you would like this course presented at your company, contact [Cheryl Tulkoff](#).

Killer Coatings

DfR's column in the June issue of [Global SMT and Packaging](#) (you will need to register) focuses on good conformal coatings gone bad. The column discusses the four ways coatings can kill (trapping of internal residues / material incompatibility / mechanical loads / concentrating external contaminants), how to avoid these problems, and how some newer coating technologies now on the market may revolutionize the conformal coating market. To learn how to use conformal coatings the right way, contact [Greg Caswell](#).

Getting Potted Works Well in Gardens-Not So Much with QFNs

QFNs are the fastest growing package technology in use today. It's small, lightweight, has great electrical characteristics, can perform in high frequency applications and they are cheap (at least compared to BGAs). But, does that mean they work well in all applications? Greg Caswell presented [The Effect of Coating and Potting on the Reliability of QFNs](#) at the SMTA ICSR last month. For more information on predicting the performance of your QFNs, contact [Nathan Blattau](#).

Upgrading Shottky Diodes

The need to periodically use a component outside its temperature range is

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.

surprisingly pervasive throughout the electronics industry. In this [informative white paper](#), DfR explains how to successfully uprate a Schottky Diode. For more information, contact [Ron Wunderlich](#).

Commercial vs. Government

While we at DfR try to avoid taking sides on what activities should be done by government and what is best performed by private enterprise, [this presentation](#) by a NASA administrator puts some surprising numbers on the difference. By some accounts, a rocket launched by SpaceX could cost 1/3rd the price of the same rocket launched through NASA. Can this really be true? Would love to hear your thoughts, especially from our friends at NASA. Post your opinions and facts at our [LinkedIn group](#) and we'll provide a summary of the discussion in our next newsletter.

DfR News

Sherlock 2.6 Released

DfR is proud to announce the release of Sherlock 2.6. This new version comes with some stunning upgrades in its capabilities, including

- Parts Database Manager: Use, create, and grow your own local database
- Automated DFMEA: What will your company do for you if you can save them 500 man-hours per year?
- Bed of Nails: Avoid Pad Cratering completely by only spending a few minutes on Sherlock
- Die Attach Fatigue: This new capability is specifically for the increasing number of customers using Sherlock for power module designs
- New packages: Including through hole, SON and USON

For more information on these capabilities and to receive a free demo, contact [Tom O'Connor](#).

DfR Receives ISO-9001:2008 Certification

DfR is proud to announce that we have received ISO-9001:2008 Certification for our Quality System. This certification again demonstrates our commitment for enhancing our internal capabilities and processes to provide our customers with the best possible services. For more information, please contact [Mike Howard](#).

Medical Design Briefs Article

Randy Schueller and Cheryl Tulkoff recently had an article published in Medical Design Briefs. [Reliability Modeling Software helps Designers Get a](#)



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.

[Jump on Testing](#) focused on a methodology for improving medical products during the design stage. For more information, contact [Randy Schueller](#) or [Cheryl Tulkoff](#).

Jim McLeish Receives Gold Award at ARS

[Jim McLeish](#) was awarded the Gold Award at the Applied Reliability Symposium for his presentation entitled "The Transition from MTTF Reliability Predictions to Physics of Failure Reliability Assessments." His presentation was recognized by the attendees for providing an excellent contribution to the discussions at the event. DfR is very proud of this accomplishment.

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](#).

SMTA Upper Midwest Expo and Tech Forum (Minneapolis, MN: June 7)

[Randy Schueller](#) gave a presentation on Pad Cratering at this local meeting. For more information, contact [Randy Schueller](#).

Central Texas Electronics Association (New Orleans, LA: June 13-15)

[Cheryl Tulkoff](#) gave a presentation on "Physics of Failure" at this local event. For more information, please contact [Cheryl Tulkoff](#).

DfR Webinar (June 14)

[Cheryl Tulkoff](#) provided a special webinar on the topic of Pad Cratering. If you would like to arrange a DfR webinar for your company, please contact Ed Dodd.

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

[Jim McLeish](#) presented "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](#).

DfR in France (June 18-19)

[Petri Savolainen](#) will be visiting companies and clients in the Marseille area. If you or your organization are interested in a visit, please contact [Petri Savolainen](#).

SMTA Capital Chapter Meeting (Laurel, MD: June 20)

[Tom O'Connor](#) will be making a presentation on Counterfeit Detection and Prevention Strategies at this local chapter meeting. For more information on how to join Tom at the meeting please contact [Tom O'Connor](#).

DfR in Detroit (Detroit, MI: June 21)

Craig Hillman and [Jim McLeish](#) will be visiting clients and companies in the Detroit area to discuss the current penetration of Sherlock in the automotive market. If you are interested in hearing how Sherlock can decrease time to market and move your organization towards 'number of designs per head,' contact [Jim McLeish](#).

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](#).

Reliability Simulation Council (San Jose, CA: July 10-11)

[Craig Hillman](#) and [Ed Wyrwas](#) will be participating in the introductory of this industry-wide meeting focused on ensuring reliability of next generation integrated circuits. Craig and Ed will be discussing DfR's approach of developing an infrastructure to allow the transmission of key non-IP information that will allow OEMs to make independent reliability evaluations. For more information, contact [Ed Wyrwas](#).

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](#).

CORPE Workshop (Aalborg, Denmark: August 21)

[Petri Savolainen](#) will be giving a presentation on the successful reliability modeling and simulation of power supply electronics. For more information, please contact [Petri Savolainen](#).

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](#).

IMAPS Nordic (Denmark: September 2-4)

[Petri Savolainen](#) will be presenting two papers at this conference. The first will be on "Harsh Environments and Electronics" and the 2nd will be on "Predicting the Reliability of Zero Level TSVs" at this local event. For more information please contact [Petri Savolainen](#).

ISO 26262 Webinar (September 6: 1pm Eastern)

[Jim McLeish](#) will be presenting on this hot topic that addresses the needs for an automotive-specific international standard that focuses on safety critical components. For more information, contact [Jim McLeish](#).

IMAPS Symposium (San Diego, CA: September 9-13)

[Greg Caswell](#) will be teaching a ½ day course on "Understanding Failure and Root Cause Analysis in Pb-free Electronics" and will be presenting a paper on "Predicting the Reliability of Zero Level TSVs" at the symposium. For more information, or to arrange a meeting with Greg at the symposium, contact [Greg Caswell](#).

DfR in Southern California (September 10-13)

[Greg Caswell](#) will be visiting customers in the San Diego are. He will be available to discuss, Pb-free issues, circuit board materials, DfM, and DfR's Sherlock software. If you would like to have Greg visit please contact [June Caswell](#).

Solar Power International (Orlando, FL: September 11)

[Cheryl Tulkoff](#) will be presenting "Reliability Modeling of Electronics for Solar Inverters" at the SPI Conference. For more information or to arrange a meeting with Cheryl at the Conference, please contact Cheryl or [June Caswell](#).

MET Labs (Baltimore, MD: September 13)

[Ed Dodd](#) will be presenting on ISO-26262 and its impact on the reliability and safety of automotive electronics. For more information or to register for the meeting please contact [Ed Dodd](#).

ESTC Conference (Netherlands: September 16-19)

[Petri Savolainen](#) will be attending this conference. If you would like to meet with Petri, please [contact him](#) directly to arrange a meeting.

DfR Solutions in Benelux Area (September 16-19)

[Petri Savolainen](#) will be visiting companies in the Belgium and the

Netherlands. If you would like to arrange for Petri to visit your company and make a presentation there, contact either [Petri](#) or [June Caswell](#).

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](#).

Darnell's Power Forum (San Jose, CA: September 19-21)

[Craig Hillman](#) will be making a presentation entitled "Using Physics and Industry Best Practices to Predict the Lifetime of LED Power Supplies" at this special conference on Power Electronics.

PCB West (San Francisco, CA: September 25)

DfR Solutions will have a booth at this important conference. Visit with [Jim McLeish](#) and Ed Dodd while at the conference. or contact us for a visit to your facility. Contact either [Jim McLeish](#) or [Ed Dodd](#).

DfR Solutions in Bay Area (Northern CA: September 24-26)

[Jim McLeish](#) and [Ed Dodd](#) will be visiting companies in the Bay Area. If you would like to arrange a visit to your facility contact [June Caswell](#).

MEPTEC / SMTA Medical Electronics Conference (Tempe, AZ: September 26-27)

[Randy Schueller](#) will be making a presentation entitled "Leveraging Existing Market Knowledge to Ensure a Successful Transition to Pb-free," at this conference. For more information contact Randy Schueller. For arranging a visit to your company while Randy is in the area, contact [June Caswell](#).

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. In addition, [Randy Schueller](#) will be making a presentation entitled "Reliability of Copper Wire Bonding." For more information, please contact [Cheryl Tulkoff](#) or [Randy Schueller](#).

NDIA Conference (San Diego, CA: October 22-25)

[Walt Tomczykowski](#) will be attending the NDIA event. If you would like to arrange a meeting with Walt at the conference, contact [June Caswell](#).

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](#).

Automotive Test Expo (Detroit, MI: October 23-25)

[Jim McLeish](#) and [Tom O'Connor](#) will be manning the DfR booth at this event. Please stop by and see what DfR is up to with respect to automotive reliability. For more information or to arrange a meeting with Jim and Tom 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](#).

International Symposium for Testing and Failure

Analysis (Phoenix, AZ: November 11-15)

[Greg Caswell](#) will be making a presentation entitled "Counterfeit Detection: When to do it? How to do It?" at the ISTFA conference. For more information or to meet with Greg at the Conference please contact [Greg Caswell](#).

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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