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Designing for Environmental Compliance !

- Manufacturers have recently been faced with an onslaught of new regulatory pressures!
- Failing to comply with regulations such as RoHS or WEEE could cost a company millions of dollars!



按照环保要求进行设计!

- 生产商最近面临着新规则带来的压力和冲击!
- 企业如果不遵守RoHS 或者WEEE 法律指令，可能会面临上百万美元的罚款!

Companies that take advantage of PLM technology with compliance data management solutions will leapfrog the competition.

Manufacturers have recently been faced with an onslaught of new regulatory pressures, most notably material compliance regulations that are aimed at reducing the amount of hazardous materials contained in new products and ensuring that these materials are recyclable at the end of the product lifecycle. Under new regulations from Europe -- and equally challenging initiatives emerging in California, China and Korea -- manufacturers must implement processes to collect, integrate, analyze and report detailed materials and substance data related to all new products.

Failing to comply with regulations such as the European Union's Restriction of Hazardous Substances Directive (RoHS) or Waste Electrical and Electronic Equipment Directive (WEEE) could cost a company millions of dollars, as AMR Research points out in a report titled, "RoHS and WEEE: It's an Executive Problem." In the report, AMR notes the experience of a major consumer electronics company which lost \$110 million in sales revenues, resulting from a ban placed on the sale of its new highly anticipated product because of claims that the product exceeded cadmium content limits.

While existing European directives have created the need for companies to manage an entirely new set of product data, the newest requirements from around the globe are furthering the case for effective and cost efficient methods for managing product compliance information. Efficient compliance practices not only lead to competitive advantages, but also help avoid the significant risks of non-compliance.

Compliance is a major issue facing Original Equipment Manufacturers (OEMs); however it also has a major impact on the supply chain -- particularly for the Tier 1 suppliers who provide parts, assemblies and systems to the OEMs. Compliance verification and audit reporting requirements require OEMs and/or their suppliers to certify that their products meet all regulatory requirements and do not exceed threshold levels of banned substances.

Providing such certification and ensuring compliance means that companies must achieve a high level of knowledge regarding the specific materials and substances that make up each and every part and

component of the products that they sell -- a potentially daunting task for companies that sell diverse and complex products, each of which may consist of thousands of parts, materials and substances.

To gain a complete understanding of the material and substance composition of their products, companies must perform four critical functions related to all purchased parts and subassemblies found in new products:

- Collection of material compliance requirements from customers and markets
- Integration of material and substance data from suppliers
- Analysis of material and substance data readiness
- Reporting of material and substance data compliance to customers, auditors or legal entities

Achieving Compliance Success

To successfully achieve compliance, companies must perform these four functions early in the new product design process so that costly product revisions, new design considerations or retrofits, new manufacturing techniques and time-to-market delays are not incurred during efforts to achieve compliance. Until recently, companies had no simple mechanism for incorporating these functions into the early product design process, resulting in feedback and reporting on material and substance data only after products had been released to market.

Even in the automotive market, where an industry standard repository of part substance data called IMDS exists, OEMs and Tier 1 suppliers could only manually input product structure (Bill-of-Materials or BOMs) or collect part substance data. They had no internal data management tool for efficiently handling the complex and companywide need for handling material compliance data through the entire Product Lifecycle. As a result, some automotive companies had to cobble together manually-intensive operations to address the four critical functions. Those that could not handle this process in an expedient manner were faced with the decision to either risk delivering non-compliant products to market or incur lofty expenses involved in manually managing part material and substance data. Some companies even incurred new product introduction delays as they awaited results from their manual compliance information management processes.

Today, leading manufacturers, as well as Tier 1 and lower level suppliers, are adopting a new method of achieving regulatory compliance without sacrificing time-to-market or the four critical functions for material and substance data management. Through their adoption of a "Design for Environmental Compliance" methodology, these companies are able to integrate part material and substance data into every phase of their new product development process, enabling them to achieve compliance with WEEE and RoHS in Europe and other emerging directives around the globe, while at the same time streamlining new product development. They can now realize the benefits of compliance, and respond to customer requirements faster than their competition.

The PLM Solution

The four critical functions for materials compliance do not change in Design for Environmental Compliance, except that it all happens much earlier, and in a more automated fashion. What enables this unity between compliance data and the early design process is the integration of Product Lifecycle Management (PLM) technology with compliance data management solutions. Essentially, this enables

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companies to expand the scope of the product data managed within PLM to include material compliance data.

By having compliance data integrated with their PLM systems, companies are able to view customer or market requirements, engineering bill-of-materials (EBOM) data, manufacturing BOM data (MBOM), and part material and substance data related to all product data -- all in a single system. This allows rapid response to customer demands while at the same time understanding the overall functional, environmental and cost impact that various product configurations will have when designing for environmental compliance -- whether in Europe, China, California, South Korea or anywhere in the world. As a result, trade-offs and issues can be discussed at the earliest stages of product development, increasing customer satisfaction and streamlining NPI and compliance efforts.

Linking material and chemical substance compliance data to all product lifecycle processes enables OEMs and Tier 1 suppliers to gain full product regulatory compliance visibility across their organization and supply chain. This will help to drive hazardous substances out of products, and avoid a litany of problems, such as slower time-to-market, product recalls, potential fines, product bans, poor customer satisfaction and possibly a damaged public image.

For those companies seeking to gain competitive advantage through compliance with current and emerging environmental regulations including WEEE, RoHS, ELV and REACH, PLM technology with compliance data management solutions will enable them to leapfrog the competition by helping to speed their product development cycles and deliver compliant products to the marketplace.

Source: www.industryweek.com

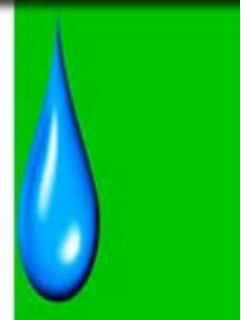
2.

Views sought over WEEE Directive !

基于WEEE 法律指令的观点 !

- Views are being sought from councils and waste management firms on the implementation of the WEEE Directive into UK law!
- The survey will inform industry as a whole, raise awareness and highlight some of the key issues in the WEEE arena!

- 议会和废物管理企业正在寻求将WEEE指令转换成英国法律的观点!
- 将工业作为一个整体，提高环保意识并强调WEEE指令范围内的关键问题!



Views are being sought from councils and waste management firms on the implementation of the WEEE Directive into UK law.

Producer compliance scheme ERP – the European Recycling Platform – has commissioned an online survey to unearth stakeholder views of the WEEE Directive, and its likely long-term impact. The findings will be presented by ERP general manager Scott Butler at the *letsrecycle.com Live!* Recycling and Waste Forum 2008, at Birmingham's National Motorcycle Museum on April 16 and 17, as part of a WEEE and battery recycling seminar.

Other speakers include Tony Pedrotti, director of sustainable development at BERR and Adrian Harding, policy advisor for producer responsibility at the Environment Agency.

Speaking to *letsrecycle.com* this morning, Mr Butler said: "The survey will inform industry as a whole, raise awareness and highlight some of the key issues in the WEEE arena. The results we have had back so far are very interesting reading.

He added: "We are particularly keen to know more about what local authorities think."

Under the theme "Looking back, looking forward" the ERP study will examine the first eight months since the WEEE Directive has come into force (see *letsrecycle.com* story) as well predicted future increases in WEEE arisings.

Issues such as individual producer responsibility and whether householders should be legally obliged to recycle electrical goods will also be addressed.

ERP yesterday emerged as the producer compliance scheme with the most WEEE collection contracts with councils in the UK (see *letsrecycle.com* story). To take part in the confidential study, please visit the local authority survey or other stakeholder survey.

Source: www.letsrecycle.com

3.

Possible RoHS Followup 'Arbitrary and Capricious,' IPC Claims !

- A proposed list of nearly 50 additional substances has touched off an uproar over Europe's apparent desire to obliterate modern electronics!
- Higher air pollution, acid rain, stream eutrophication, and global warming impacts than tin-lead soldered electronics!



IPC抱怨，对RoHS指令尽可能 追根究底的做法非常武断并且反复无常！

- 一项拟有近50种附加物质的列表引发了对欧洲抹杀现代电子的明显愿望的轩然大波！
- 空气污染，酸雨，河流富营养化以及全球变暖比锡铅焊接的电子产品对环境的影响更大！

With the industry still reeling in some circles from the after-shocks of the RoHS Directive, a proposed list of nearly 50 additional substances has touched off an uproar over Europe's apparent desire to obliterate modern electronics. In the latest volley, IPC is calling on the organization charged with assessing potentially hazardous substances for possible inclusion in supplemental legislation to the RoHS Directive to table its efforts until further scientific evidence is available to support a ban. In a letter dated March 27, Fern Abrams, director, of government relations and environmental policy, called the Öko-Institut's preliminary list of substances "arbitrary and capricious" and "with little or no scientific basis." The effects of RoHS, she noted, have had multiple unintended consequences that in fact could actually cause more environmental damage than did widespread use of the now-banned substances.

"The higher processing temperature of lead-free alloys," she wrote, "has resulted in significantly higher energy usage" and has been projected to cause "higher air pollution, acid rain, stream eutrophication, and global warming impacts than tin-lead soldered electronics."

In the letter, Abrams urged the institute to temper its actions in light of the potential cost of implementation to the industry. She also cited the inadvertent environmental affects of the RoHS Directive. "Cost implications of the RoHS Directive's implementation are still being discovered," she wrote.

"IPC urges the Öko-Institut to avoid restricting additional substances to the RoHS scope while industry, governments and the public are still facing a variety of implementation challenges," Abrams wrote. "Any expansion of the RoHS scope must be thoroughly reviewed for technical feasibility."

The European Union assigned the Norway-based Öko-Institut (oeko.de) to expand the list of substances covered by RoHS. In turn, the group identified 46 additional substances for regulation, among them nickel, beryllium, gallium arsenide, liquid crystals and rosin (as in rosin flux). (A full list is at <http://hse-rohs.oeko.info/index.php?id=3>.)

The impact of a ban on such a wide range of materials would be far-reaching and potentially devastating to the world's electronics market. Rosin is used in flux; liquid crystals in all sorts of displays; gallium arsenide crystals are found in phones, optical networking and wireless LAN; and nickel is used for plating in a host of applications.

IPC historically has been reluctant to mix in what are seen as Europe's affairs. A former government relations director at IPC told this reporter that pressure from groups outside Europe tends to backfire, and

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the association did not attempt to coordinate actions against the RoHS Directive banning lead and other substances, which went into effect in July 2006.

Abrams left no doubt, however, the trade group would take a hard line this time around. Twice calling the Öko-Institut's actions "arbitrary and capricious," Abrams asserted the institute mistakenly included TBBPA (Tetrabromobisphenol-A), a brominated flame-retardant used in laminate, on its list, despite that substance's having passed a recent EU risk assessment. She also claimed Öko-Institut "misused and misinterpreted" a Joint Industry Guide, which "was never intended to be used as a basis for any substance restriction" but rather as a means for the supply chain to share information.

Abrams called on Öko-Institut to have a "valid and scientific basis" for any substances on its list, and to "fully evaluate the life cycle (design, use and end-of-life) impacts" of the proposed substitutes prior to further legislating their use. "The shift from lead-bearing solder alloys to lead-free alloys has created reliability concerns within solder joints," she wrote.

"The high tin content solder joint may be stronger, [but] the thermal stresses applied are transferred to other locations within the assembly causing failures within the board or the components."

For the most part, the industry has been quiet – or perhaps unaware – of this latest go-around. Those who have been watching are up in arms, however. As Dr. Craig Hillman of DfR Solutions remarked on a widely read industry email forum, "The final result remains to be seen, but future electronics may have to be made from clay, rocks and paper."

Source: <http://circuitsassembly.com>