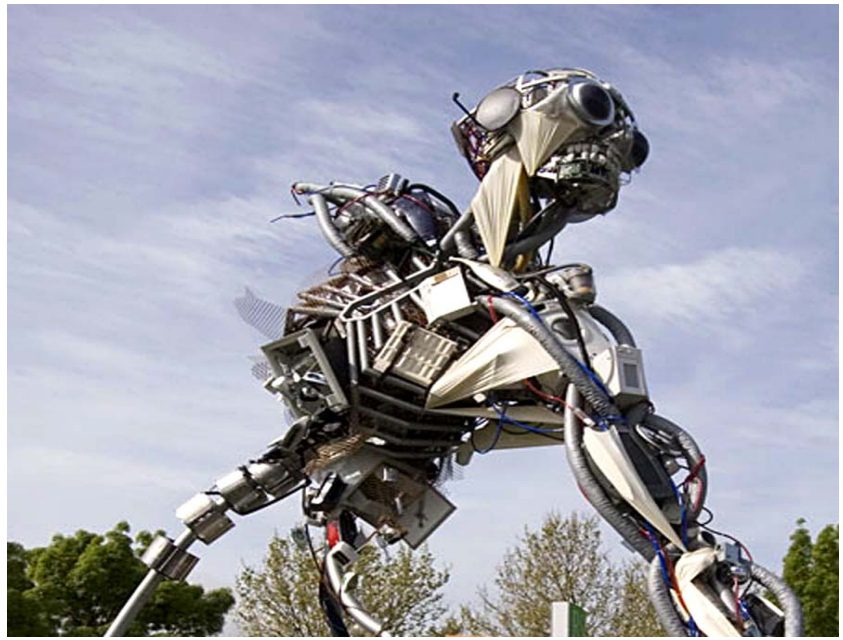
Speedline and Electronics Waste Laws

7 April 2006

What is this session all about?

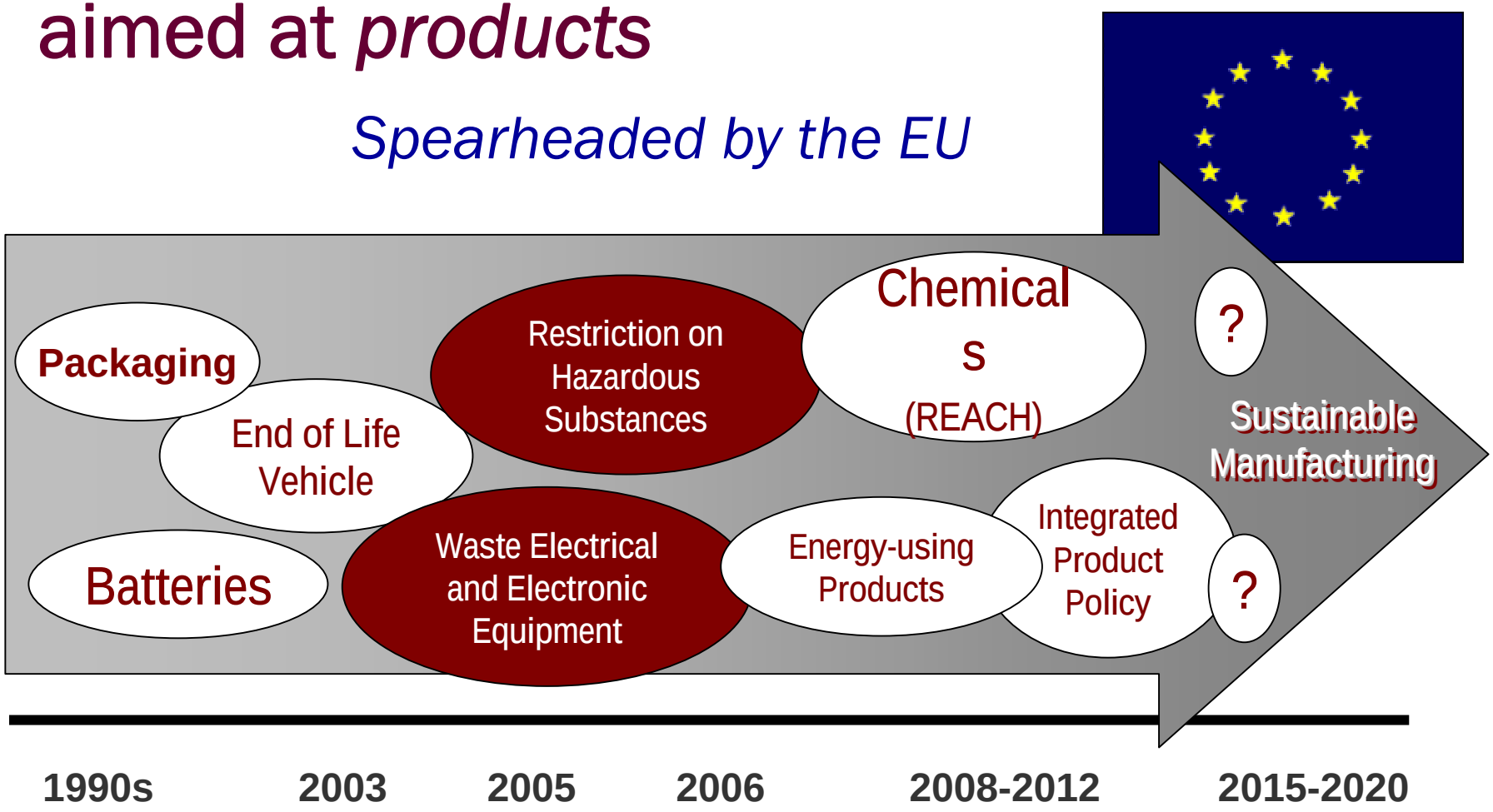
- Make you aware of an important new environmental trend affecting our industry
- What Speedline is doing about it
- Get *YOU* involved



These environmental norms will become a regular part of the way we do business

An important trend – environmental laws aimed at *products*

Spearheaded by the EU



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What is covered by RoHS and WEEE laws?

Almost everything with a battery or plug

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What do these laws require?

- RoHS
  - Effectively prohibits toxic substances:
    - Cadmium
    - Mercury
    - Lead
    - Hexavalent Chromium
    - 2 types of fire-retardant plastics
  - from most types of electrical and electronic equipment (EEE)
- WEEE
  - Requires EEE to be
    - Reused or
    - Recycled or
    - Properly treated
  - Producers and users foot the bill
  - Intent – eliminate all EEE from landfills and incinerators ('landfills in the air')

Maximum Concentration Values (MCV's)

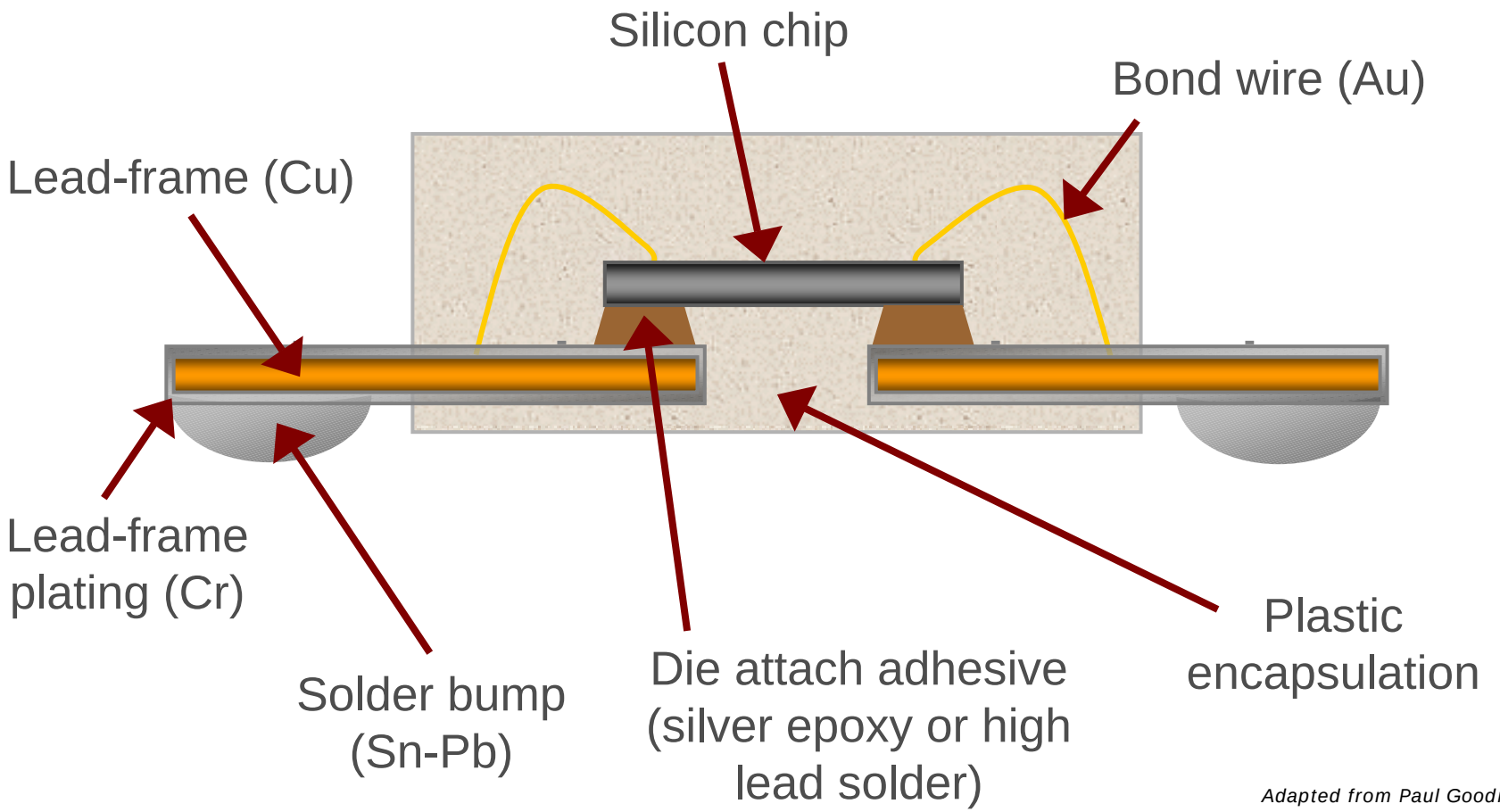
- Lead
- Hexavalent Chromium
- Mercury
- PBB's and PBDE's

1000 Parts-Per-Million
or, 0.1%

- Cadmium

100 Parts-Per-Million
or, 0.01%

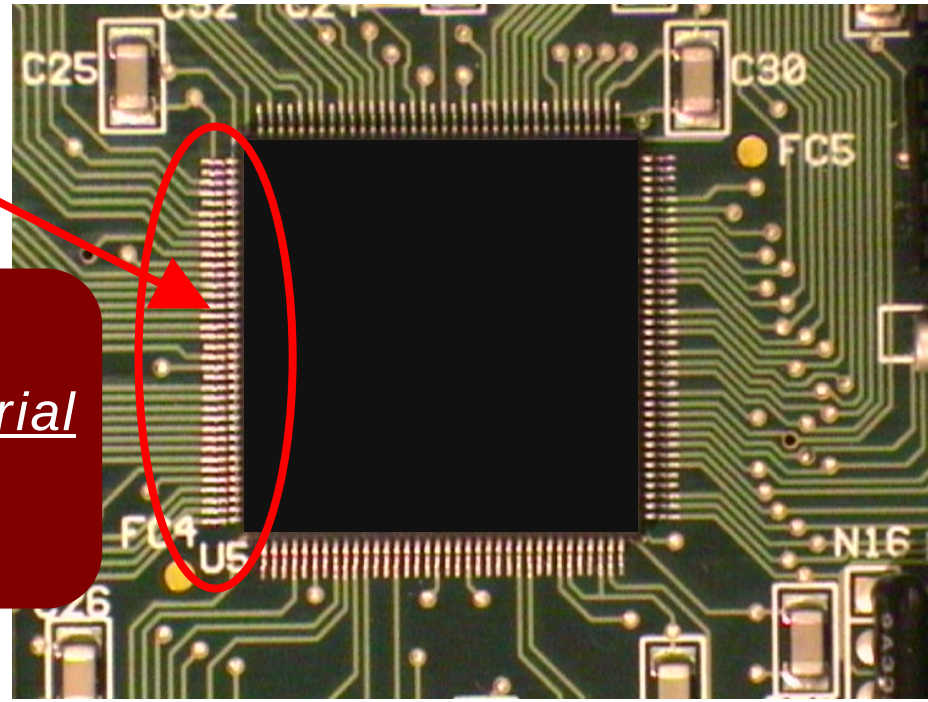
MCV's are applied to every *homogeneous material*



Adapted from Paul Goodman, ERA

PPM of component vs. PPM of *material*

Sn-Pb solder alloy (a *material*)
solder bumps on lead-frame
(15% Pb)



- 90 ppm by weight of component
- *150,000 ppm by weight of material*

Does NOT comply

How do RoHS laws affect Speedline?

EU RoHS (the 'original')

China RoHS (the 'copycat')

Speedline product are "large-scale stationary industrial tools" and out-of-scope - thus our products *do not need to comply* currently	Speedline products are within scope – *they must comply*
Numerous materials exemptions exist	No exemptions
No testing, labeling, or certification	Products must be tested by Chinese labs, certified, and labeled
Published in 2002, takes effect 1 July 2006	Published 1 March 2006, takes effect 1 March 2007
About 12%+ of our revenue	About 35% of our revenue

Other ‘Copycat’ WEEE and RoHS laws

- *California* – pending bill to copy EU RoHS exactly
- *Japan* – labeling requirements
- *Korea* – pending bill on WEEE recycling
- *US States* – many substance bans, such as mercury in MA, Cadmium in VT

Penalties and risks

- Withdrawal from market
  - 2001 – Excess cadmium in Sony Playstation II
    - cost Sony over $100M
- Delays
  - China testing and certification
  - Everywhere, border delays if challenged
- Fines
  - France: €7,500 per infraction
  - Estonia: €1.5M per year
- Prison terms
  - Estonia: up to 2 years
- Lawsuits
- Loss of market share

Why else should we care?

- "Permanent [EU] exemptions are out of the question."
  Timo Makela, Director of Sustainable Development and Integration
  European Commission Environmental Directorate General, Sept. 21, 2005

- Indirect effects already sweeping the entire industry along
  - non Lead-free parts being phased out
  - Contract Manufacturers moving to Lead-free assembly
  - Large companies adopting uniform compliance requirement – exempt or not

- Customers are demanding conformance to requirements
  - Saying we're out of the scope may not be enough even though we are

- Competitors are claiming 'compliance' in EU - today

RoHS Compliance touches most functional areas

Engineering
- Redesign and ECO's
- Parts re-spec & substitution

Manufacturing
- Changes in assembly processes
- Quality issues – mixing Lead-free/non-lead-free parts
- Parts stocking

Purchasing
- Supplier relations
- Collect materials information
- Manage parts versions, parts numbers
- Careful procurement of lead-free vs. leaded parts

IT
- Establish & maintain material compliance database
- Generate requests for part info / generate reports for customers

Marketing / sales
- Present compliance position clearly and effectively
- Effectively deal with customer demands for compliance
- Manage product obsolescence and New Product introduction
- Monitor competitors' compliance efforts

Service and support
- Manage non-compliant / compliant repair stocks
- Assure reliability as materials change

Quality
- Track defects related to RoHS compliance

Logistics
- Deal with challenges to product exemptions

Legal
- "Due Diligence" and "Reasonable steps"

How is Speedline responding?

This is not a choice. It must become a routine part of how we do business – starting now

- Speedline requirements:
  - Part of the way we do business – a process change, not singular event
  - Similar to UL, CE marque, NPD process
  - All departments will have a role to play
  - *Start now*

- Our goals:
  - Meet RoHS substance ban requirements
  - Keep on top of rapidly changing landscape
  - Monitor Laws and be ready to implement requirements when required

- Objective: meet or exceed requirements over the long-term
  - Some customers may insist we meet them, even where we're exempt
  - Some parts we use likely will be phased out – requiring redesign

Challenge: stay on top of the wave
Way ahead – waste resources
Way behind – sudden disruptions possible

What has Speedline done so far?

- Management on board - approved corporate program
- RoHS team formed as a *transitional resource* for all functional areas
- Long-term product roadmap to remove banned substances being started
- Collecting supplier information on RoHS substances
- Developed statement of compliance
  - EU Directive does not apply to “large scale stationary industrial tools”
  - Currently not in effect in China
- Developed shipping documentation to indicate RoHS status

Customs Declaration

CUSTOMS DECLARATION

REGARDING EUROPEAN UNION
DIRECTIVES 2002/95/EC (RoHS) AND 2002/96/EC (WEEE)

The equipment included in this shipment is outside the scope of the referenced Directives.

This equipment, including accessories, manuals, spare parts, and other items, is used exclusively for the fabrication of electronic printed circuit wiring boards. They are thus “large-scale stationary industrial tools”, that are defined as outside the scope of Directives 2002/95/EC (Restriction on Hazardous Substances) and 2002/96/EC (Waste Electrical and Electronic Equipment), by Annexes 1A and 1B of the WEEE Directive.

Conformity Declaration for Finished Equipment

Speedline technologies

EUROPEAN UNION DIRECTIVES 2002/95/EC (RoHS) AND 2002/96/EC (WEEE)

DECLARATION OF CONFORMITY – Finished equipment

Manufacturer	Speedline Technologies, Inc., 16 Forge Park, Franklin, MA 02038, USA
Product	Accela Series Stencil Printers
Date of Manufacture	
Serial Number	S/N_____
Product Description / Function	Accela Series Stencil Printers are used in the assembly of electronics printed circuit wiring boards (PCWB's). Their specific function is to apply solder paste to bare circuit boards prior to the boards being conveyed to other machinery for component placement.
Declaration of WEEE / RoHS applicability	This equipment is outside of the scope of European Union Directives 2002/95/EC (RoHS) and 2002/96/EC (WEEE) because it qualifies as a **large-scale stationary industrial tool.**
Directive citations	Directive 2002/95/EC (RoHS), Article 2, Paragraph 1: "Without prejudice to Article 6, this Directive shall apply to electrical and electronic equipment falling under the categories 1, 2, 3, 4, 5, 6, 7 and 10 set out in Annex IA to Directive No 2002/96/EC (WEEE) Directive 2002/96/EC (WEEE), Article 2, Paragraph 1: "This Directive shall apply to electrical and electronic equipment falling under the categories set out in Annex IA." Directive 2002/96/EC (WEEE) Annexes 1A and 1B: "6. Electrical and electronic tools **(with the exception of large-scale stationary industrial tools)"** [emphasis added]
Explanation	Accela Family Stencil Printers are used exclusively for an industrial function as part of a larger industrial process. I.e., they are solder paste dispensing systems used in the manufacture of circuit boards. They have no function outside of the circuit board fabrication industry, where they are used in conjunction with other stationary industrial tools and systems. They are heavy, generally permanently fixed, and not portable. They are professionally installed.
Signature **Name and title**	John Ufford, Vice President, Engineering, Speedline Technologies, Inc.
Date	

Conformity Declaration for Replacement / Upgrade Parts

Speedline technologies

EUROPEAN UNION DIRECTIVES 2002/95/EC (RoHS) AND 2002/96/EC (WEEE)

DECLARATION OF CONFORMITY – Replacement/repair/upgrade parts

Manufacturer	Speedline Technologies, Inc., 16 Forge Park, Franklin, MA 02038, USA
Product	Accela Series Stencil Printers
Date of Manufacture	
Serial Number	S/N_____
Product Description / Function	Accela Series Stencil Printers are used in the assembly of electronics printed circuit wiring boards (PCWB's). Their specific function is to apply solder paste to bare circuit boards prior to the boards being conveyed to other machinery for component placement.
Declaration of WEEE / RoHS applicability	This equipment is outside of the scope of European Union Directives 2002/95/EC (RoHS) and 2002/96/EC (WEEE) because it qualifies as spare parts for large-scale stationary industrial tools and/or because they are for equipment put on the market before 1 July 2006.
Directive citations	Directive 2002/95/EC (RoHS), Article 2: "1. Without prejudice to Article 6, this Directive shall apply to electrical and electronic equipment falling under the categories 1, 2, 3, 4, 5, 6, 7 and 10 set out in Annex IA to Directive No 2002/96/EC (WEEE) ….. 3. This Directive does not apply to spare parts for the repair, or to the reuse, of electrical and electronic equipment put on the market before 1 July 2006." [emphasis added] Directive 2002/96/EC (WEEE), Article 2, Paragraph 1: "This Directive shall apply to electrical and electronic equipment falling under the categories set out in Annex IA." Annexes 1A and 1B, Category 6: "6. Electrical and electronic tools (with the exception of large-scale stationary industrial tools)" [emphasis added]
Explanation	These are spare replacement parts for the repair of equipment used exclusively in the manufacture of electronic printed circuit boards. This equipment has no function outside of the circuit board fabrication industry, where it is used in conjunction with other stationary industrial tools and systems. It is heavy, generally permanently fixed, and not portable. It is professionally installed.
Signature **Name and title**	John Ufford, Vice President, Engineering, Speedline Technologies, Inc.
Date	

RoHS team

Charter – formulate strategy, explain it, roll-out, and assist in integration

- Franklin / Billerica
  - Chris Barron
  - John Ufford
  - Rich Nault
  - Rick Goyette
  - Bill Dameron
  - Paul Hemond (Billerica)
- Europe
  - Bob Pitchford
- Singapore
  - Wei Liong Chin
  - LB Ang
- Camdenton
  - Gay Ann Christy
  - Dawn Schelp
  - Chris Greenwood
  - Jim Morris
- GoodBye Chain Group (MA)
  - Mark Myles

Ultimately – each department is responsible for making its own activities in line with RoHS goals

What is Speedline going to do?

- Logistics:
  - Include company compliance statement now available to send to customers, regulators, etc.
  - Documentation to be included with shipped product
- Marketing/Sales:
  - Develop marketing message to explain our position to customers
  - Create sales presentation on Speedline position and transition program
- Engineering:
  - Gear new designs to RoHS conformance
  - Refine New Product Development Process to incorporate environmental requirements
- GoodBye Chain Group (with Engineering):
  - Third-party exemption assessment documentation to be added to Technical File

What is Speedline going to do?

- Purchasing (with Engineering):
  - Re-specify and design out RoHS substances
  - Develop spec and presentation for supplier conformance
  - Roll out to suppliers
  - Suppliers must develop own programs – design teams will assist to develop knowledge

- IT (with Purchasing):
  - Continue collecting Material Declarations from suppliers:
  - Certification that parts we buy are free of RoHS-6 substances
  - Build upon information already collected
  - Transition to use of industry standards for data collection using Industry Standard IPC 1752
  - Create and maintain database of compliance info
  - Audit and refine data collection system

- Operations:
  - Stay abreast of part status
  - Manage inventory and purchasing to separate leaded from lead-free parts
  - Work with PCB CM's to assure board reliability
  - Redesign on as-needed basis

Questions, Comments, Discussion