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Component Pricing & Counterfeiting

Price Trends and the Relationship to Counterfeiting

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Counterfeits Impact Commercial Electronics



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IHS iSuppli Table 1: Top-5 Most Counterfeited Semiconductors in 2011 (Percentage of Counterfeit Part

Majority of counterfeit incidents reported were from the commercial sector

Rank	Commodity Type	Reported Incidents
#1	Analog IC	25.2%
#2	Microprocessor IC	13.4%
#3	Memory IC	13.1%
#4	Programmable Logic IC	8.3%
#5	Transistor	7.6%

Source: IHS Parts Management 2012

IHS iSuppli Table 2: Percentage of Market Revenue for Most Commonly Counterfeited Product Types by Application Market in 2011 (Percentage Share of Revenue in Millions of U.S. Dollars)

Part Type	Industrial	Automotive	Consumer	Wireless	Wired	Compute	Other
Analog IC	14%	17%	21%	29%	6%	14%	0%
Microprocessor IC	4%	1%	4%	2%	3%	85%	0%
Memory IC	3%	2%	13%	26%	2%	53%	1%
Programmable Logic IC	30%	3%	14%	18%	25%	11%	0%
Transistor	22%	12%	25%	8%	10%	22%	0%

Source: IHS iSuppli March 2012

Challenges facing the semiconductor industry in 2012



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Opportunities for Growth

- Growth of media tablets
- Ongoing migration to Smart phones
- Improved notebook sales
- Emergence of Ultrabook PC
- Strong energy and environmental opportunities
- Resolution among Memory manufacturers
- US Presidential election

Threats to Growth

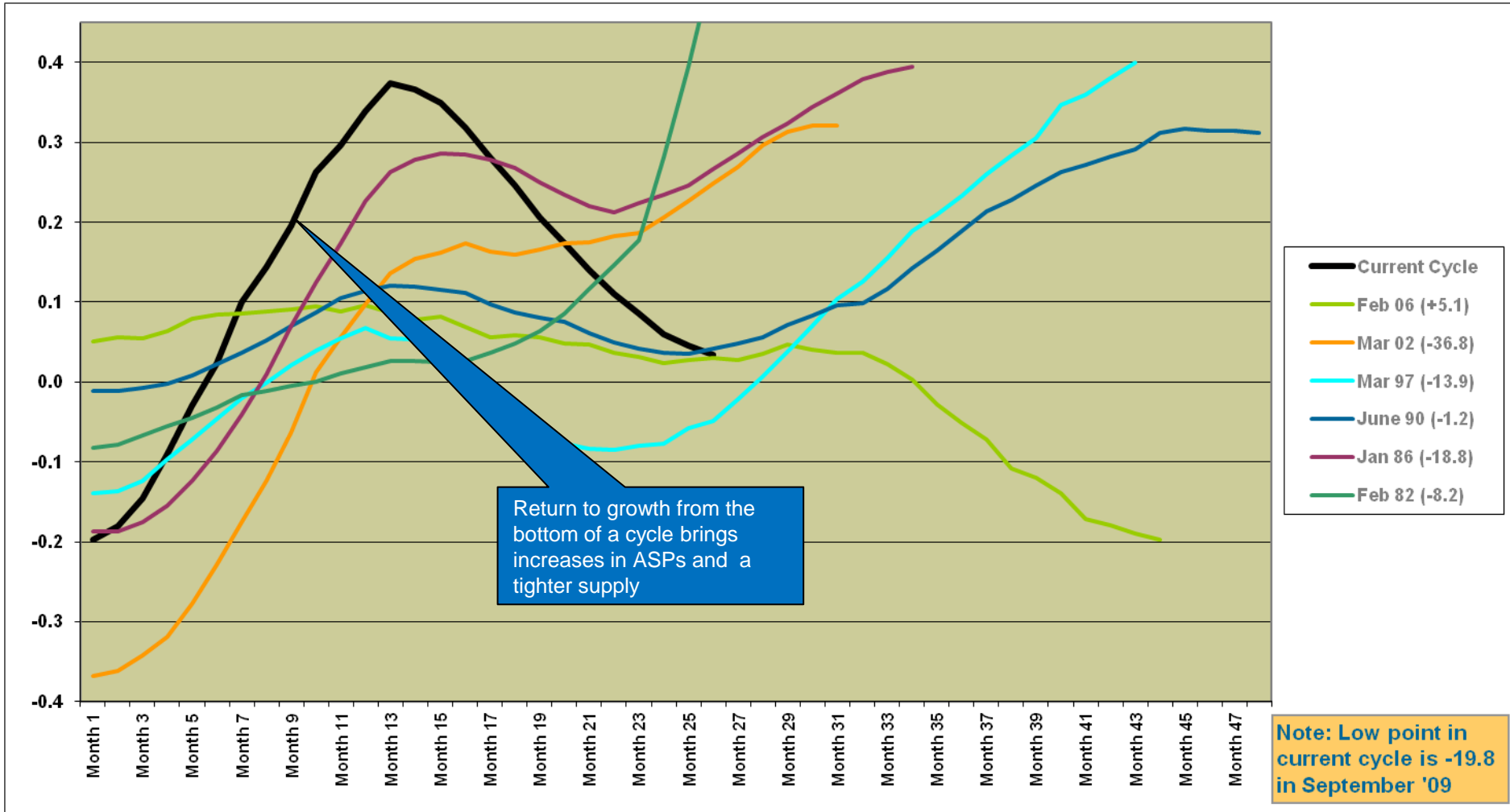
- Uncertain global economy
- Reluctance of consumers to incur additional debt
- Inventory management
- Counterfeit Growth

Historical Cyclical Behavior Indicates Bottom Reached in 2012



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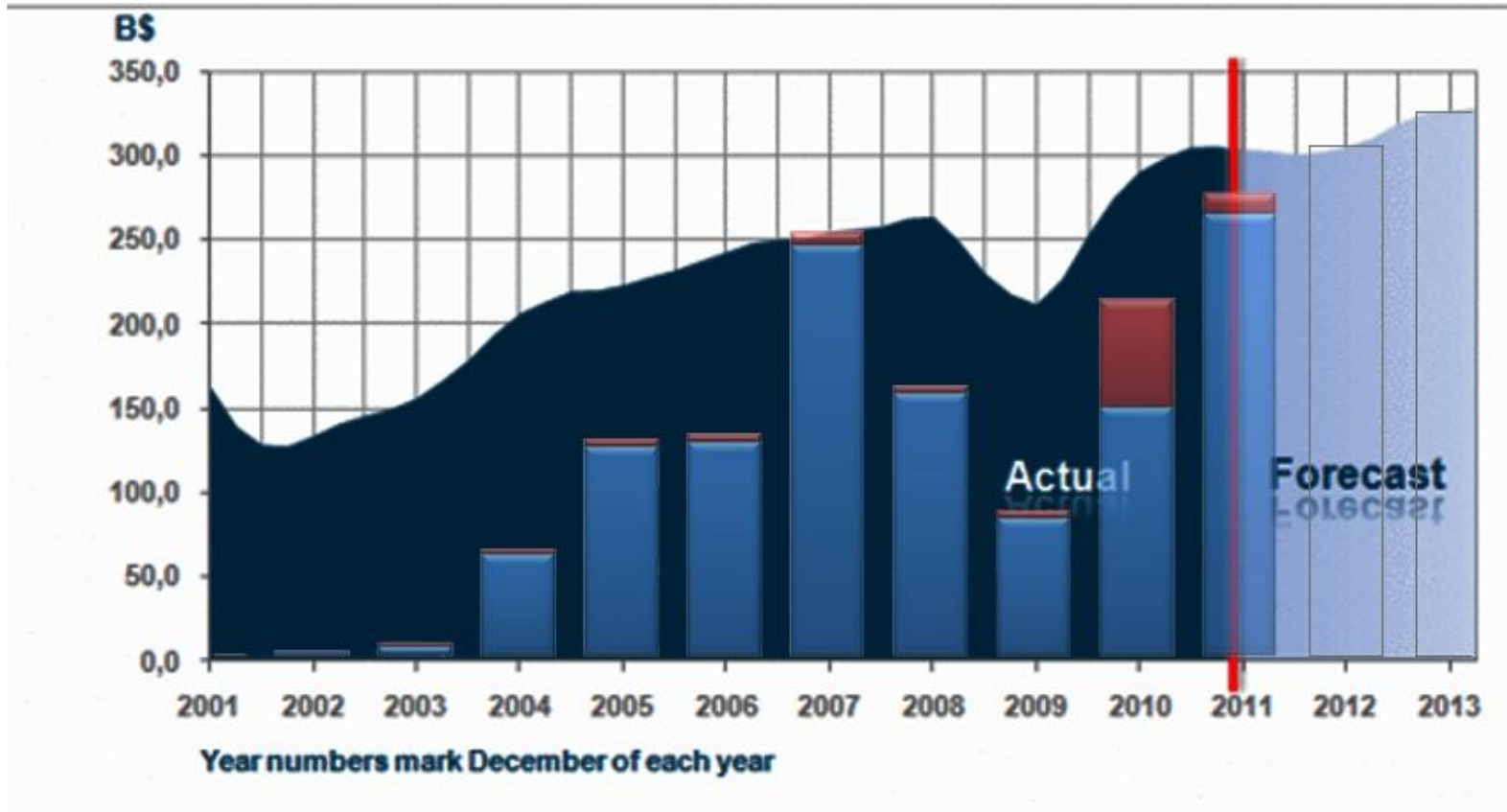
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Insight: Counterfeit Incidents vs. Revenues 2001 – 2011



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ERAI Accounted for Over 90% of High Risk and Suspect Counterfeit Parts Verified and Reported from 2001-2011

Majority of counterfeit incidents reported were from the commercial sector

Component Pricing on the Rise



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- Signs are appearing that a rise in semiconductor component pricing is in effect
- While broad-based price increases are not uncommon in the semiconductor industry, most electronic components are entering a phase of some sort of price increase
- This pricing situation should continue through 2012 – with some exceptions
- When pricing trends upward, lead times tend to extend as well moving out beyond normal levels
- This type of price & availability environment is the perfect scenario for counterfeit components to thrive..

Risk Scenario



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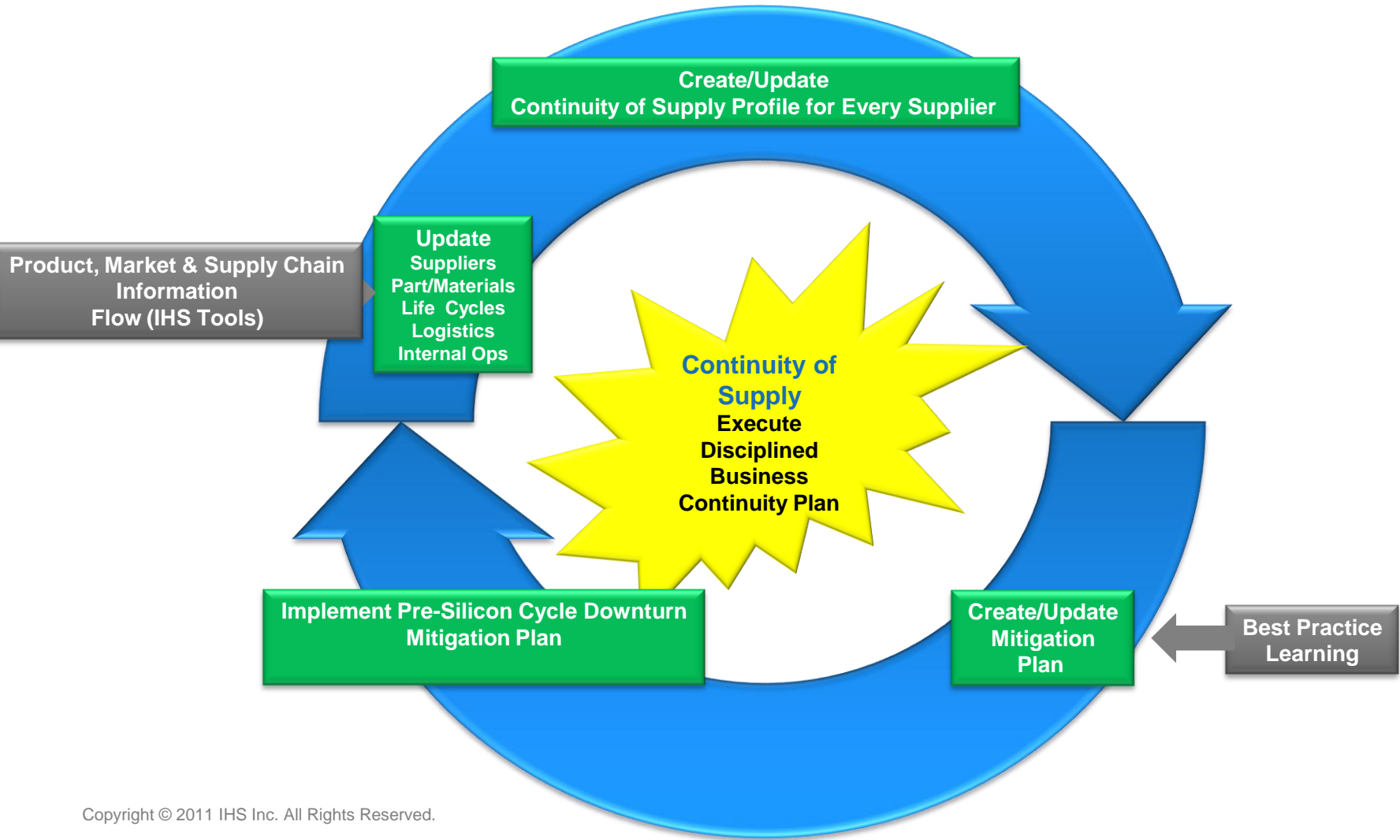
- Semiconductor “Silicon Cycle” Effect
- Demand Soars, Prices and Lead-Times Increase
- Ensuring Continuity of Supply Becomes Number One Priority
- Shortage of Critical Components Occurs
- Best in Class Procurement Breaks from Disciplines and Procures Components Outside of Qualified Supply Chain
- This Environment and Subsequent Actions Continue to Fuel the Counterfeit Component Market and Give Rise to the Growth

Develop a Continuity of Supply Plan



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2012 Pricing Outlook Shows Change



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- Suppliers reporting recent positive book-to-bill
 - This is a sign of a return to growth and suppliers will adjust their pricing strategies accordingly
- Manufacturing run rates will increase as bookings increase
 - Orders are being placed now to replenish channel inventory
- Companies are focusing on Continuity of Supply and Inventory Management



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Summary

- Global economics will remain the most influential factor affecting the semiconductor industry in 2012.
 - Consumer purchases will drive revenue increases in second half of 2012.
- Inventory management throughout the supply chain has brought the industry back to a position where manufacturing run rates should start to increase.
- Capital expenditure announces are based on a conservative sales forecast. Companies have the potential for a 10 – 15% upside depending on timing.
- Wireless applications will dominate foundry / industry growth in 2012 and beyond
 - Next generation Ultrabooks are still one year away



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Conclusions

- **Counterfeit Suppliers are in Lock-Step with the Market**
 - As the market tightens for specific components, counterfeit will saturate it
 - Capacity for counterfeit manufacturing has been expanded to meet current demand

- **Constant Vigilance and Discipline are Critical**
 - 24/7 Monitoring of the Global Market and Trends are Mandatory
 - Key Performance Indicators such as Price, Availability and Part Life Cycle Maturations Provide Critical Market Intelligence into specific “at-risk” products