

# Counterfeit Avoidance – The Continuing Journey



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ASQ

The Global Voice of Quality<sup>®</sup>

# Learning Objectives

- In this session you will:
  - Increased knowledge about the global counterfeiting problem
  - Understand the source of counterfeit products
  - Know what the Department of Defense is doing to protect the warfighter

# Benefits of Projects

- Organization:
  - Protect the organizations reputation
  - Protect the performance and reliability of the organizations products
- Individual:
  - Raise awareness of the individuals contribution to counterfeiting
  - Develop deeper understanding of current regulations and standards

# The Problem!



# Headlines

**pdn**  
PHOTO DISTRICT NEWS  
FEATURES GEAR BUSINESS & MARKETING MAGAZINE CONTESTS  
SPONSORED  
CANON IS FIGHTING THE WAR ON COUNTERFEIT GOODS  
October 10, 2017  
wetcott  
**FLEX**  
The Original Flexible LED  
Brighter LEDs. Better quality. Backed for life.

**Manchester Evening News**  
Sept. 12, 2017, 7:12 p.m.  
News > Greater Manchester News > Strangeways

## Thousands of dangerous counterfeit Frozen dolls, Minion yoyos and SpongeBob SquarePants jigsaws seized in Strangeways

A company boss has been given a community service order after 9,500 fake and dangerous toys were seized



## Authorities Confiscate Thousands of Counterfeit Hoverboards in Santa Fe Springs

POSTED 5:14 PM, SEPTEMBER 18, 2017, BY JOHN FENOGLIO, UPDATED AT 07:31PM, SEPTEMBER 18, 2017

**eeNews**  
EUROPE

## "Operation Wafers": over one million counterfeit semiconductors seized, reports ESIA

July 03, 2017 // By Julien Happich

**DISTRIBUTION & LOGISTICS**  
Customs agents seize \$12.3M in counterfeit water bottles

**Semi Conscious**  
**Fake Chips on Amazon Are Nothing New**  
Dylan McGrath, Editor in Chief, EE Times  
7/24/2017 05:11 PM EDT  
NO RATINGS  
LOGIN TO RATE

**Counterfeit Electronic Parts Sold by MVP Micro and Affiliates Remain Unaccounted For**

**INSIGHT**

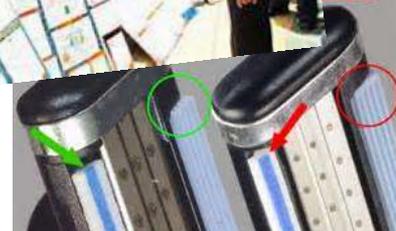


OCTOBER 19, 2016 AAPL: 117.12

## More than 90% of 'genuine' Apple chargers & cables sold on Amazon are fake, says Apple

Ben Lovejoy - Oct. 19th 2016 4:51 am PT @benlovejoy

# Can You Tell the Difference?



# 2017 Customs and Border Patrol IP Seizures



## Manufacturer's Suggested Retail Price

<b><u>Commodity</u></b>	<b><u>MSRP</u></b>	<b><u>Percent of Total</u></b>
Watches/Jewelry	\$ 460,162,145	38%
Handbags/Wallets	\$ 234,451,926	19%
Consumer Electronics	\$ 85,115,639	7%
Labels/Tags	\$ 80,951,055	7%
Wearing Apparel/Accessories	\$ 74,880,617	6%
Pharmaceuticals/Personal Care	\$ 69,758,720	6%
Consumer Products	\$ 46,265,355	4%
Footwear	\$ 51,231,396	4%
Optical Media	\$ 27,573,775	1%
Toys	\$ 12,128,156	1%
All Others	\$ 73,604,401	6%

**Total FY 2017 MSRP** **\$ 1,206,382,219**  
**Number of Seizures** **34,143 (93/day)**

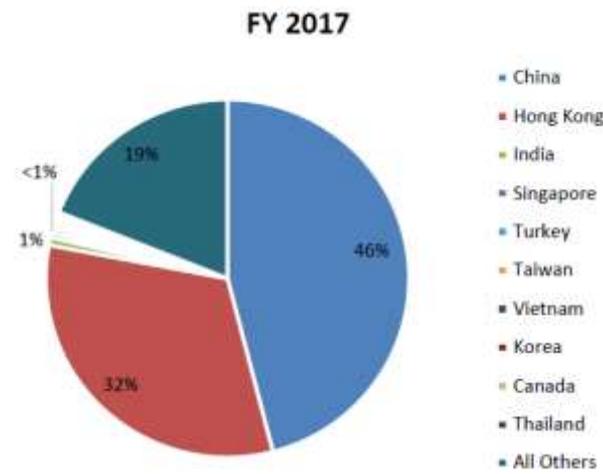
**Total FY 2016 MSRP** **\$ 1,382,903,001**  
**Number of Seizures** **31,560 (86/day)**

**Intellectual Property Rights  
 Seizure Statistics  
 Fiscal Year 2017**

**In FY 2017, ICE-HSI arrested 457 individuals, obtained 288 indictments, and received 242 convictions related to intellectual property crimes.**



## IPR Seizure Statistics 2007-2017



Country of Origin



# Why is this issue so difficult?

- **Aging systems**

- Obsolescence
- Diminishing Sources for parts

- **Economic**

- Cost
- Schedule pressures
- Minimum buys
- **E-Commerce**

*Counterfeiters are good & getting better ...  
They are fast and agile ...*

- **International sources**

- Authentic parts manufactured in Asia (Fabless model)
- Profitable and growing capability to counterfeit
- **Organized crime**

*Follow the money ...*

- **Counterfeits more difficult to detect**

- May not affect fit, form or ... function
- Tests, visuals and failure analysis may not detect counterfeits

# Quick History of DoD Regulations



# Senate Armed Services Committee

- **2011 Levin McCain Hearings**

- **Sen. Carl Levin, D-Mich, Committee's Chairman**
- **Ranking Member Sen. John McCain, R-Ariz**



- **Found a total number of suspect electronic counterfeit parts in 1,800 cases exceeded 1 million parts**

- **U.S. Air Force said that a single electronic parts supplier, Hong Dark Electronic Trade of Shenzhen, China, supplied approximately 84,000 suspect counterfeit electronic parts into the DOD supply chain**

Per the Semiconductor Industry Association counterfeits cost U.S. semiconductor companies more than \$7.5 billion annually in lost revenue, and the loss of nearly 11,000 American jobs

# Senate Armed Services Committee Conclusions



1. **China is the dominant source country for counterfeit electronic parts that are infiltrating the defense supply chain.**

2. The Chinese government has failed to take steps to stop counterfeiting operations that are carried out openly in that country.



3. **The Department of Defense lacks knowledge of the scope and impact of counterfeit parts on critical defense systems.**

4. The use of counterfeit electronic parts in defense systems can compromise performance and reliability, risk national security, and endanger the safety of military personnel.



5. **Permitting contractors to recover costs incurred as a result of their own failure to detect counterfeit electronic parts does not encourage the adoption of aggressive counterfeit avoidance and detection programs.**



6. **The defense industry's reliance on unvetted independent distributors to supply electronic parts for critical military applications results in unacceptable risks to national security and the safety of U.S. military personnel.**

7. Weaknesses in the testing regime for electronic parts create vulnerabilities that are exploited by counterfeiters.

8. The defense industry routinely failed to report cases of suspect counterfeit parts, putting the integrity of the defense supply chain at risk.



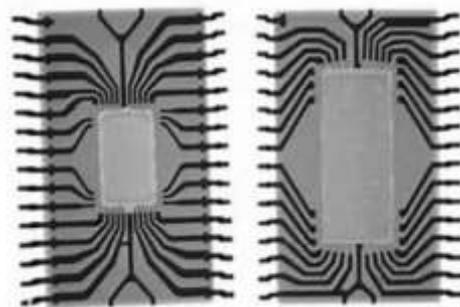
# Closed Legislative Actions



- **Section 818 of the 2012 NDAA**
  - Congressional law inserted into the National Defense Authorization Act Dec 2012
  - Modified in each new NDAA legislation
- **FAR 2012-032 – Higher Level Quality Contract Requirements**
  - Released November 2014
- **DFARS 252.246-7007** Published May 2014/Revised Aug 2016
  - Implements section 818
- **DFARS 252.246-7008 – Published Aug 2016**
  - Defines “Trusted Supplier”
  - Requires traceability from OCM to product acceptance by the government
- **DFARS 2016-D010 – Cost of Remedy for Use or Inclusion of Counterfeit Electronic Parts**
  - Amends c)(2)(B) with regard to the allowability of costs of counterfeit electronic parts or suspect counterfeit electronic parts and the cost of rework or corrective action that may be required to remedy the use or inclusion of such parts.
  - Publication 8/30/16

# Open Legislative Actions

- **FAR 2013-002** – Expanded Reporting of Nonconforming Items
  - On hold per DARC director to complete study regarding feasibility of changing GIDEP since 3/17/15
- **DFARS 2016-D013** – Amendments Related to Sources of Electronic Parts
  - ...use of contractor-approved suppliers subject to approval by DoD



# DFAR 252.246.7007

May 2014

## System Criteria

1. Training
2. Inspection and test
3. Processes to abolish
4. Traceability
5. Procurement controls
6. Reporting and quarantining
7. Identification and evaluation of suspect counterfeit
8. Systems to detect and avoid (e.g. AS5553)
9. Flow-down
10. Process to keep informed
11. Process for screening GIDEP report
12. Control of obsolete electronic parts



**DFARS 252.246-7008**  
**Sources of Electronic Parts**  
**Aug 2016**



# DFARS 252.246-7008

## Sources of Electronic Parts

- **DFARS Case 2014-D005 initiated 12/19/2014**
  - **Detection and Avoidance of Counterfeit Electronic Parts—  
Further Implementation**
  - **Final rule published 8/2/16**
- **Focus on the requirement that DoD contractors and subcontractors shall obtain electronic parts**
- **Provide clarification of traceability requirements**
- **DFARS 252.246-7007 criteria's 4 and 5 revised to call out the requirements of DFARS 252.246-7008**



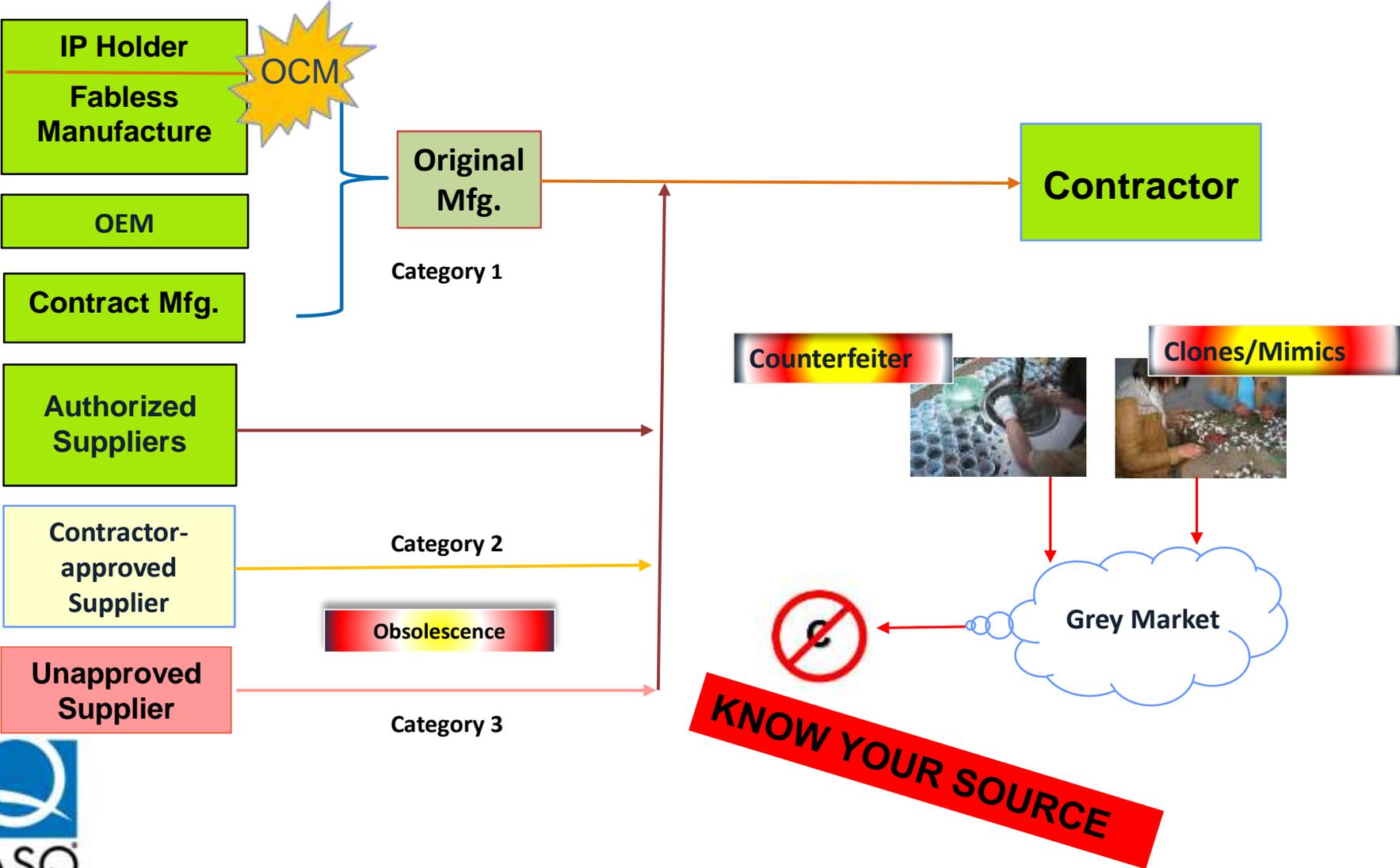
# Tiered Approach for Sources of Electronic Parts

- **Category 1:** Electronic parts that are in production or currently available in stock.
- **Category 2:** Electronic parts that are not in production and not currently available in stock from a category 1 supplier.
- **Category 3:**
  - Sources other than a category 1 or 2 as defined above
  - electronic parts from a subcontractor (other than the original manufacturer) that refuses to accept flow down of DFARS 252.246-7008
  - Cannot confirm that an electronic part is new or not previously used and that it has not been comingled in supplier new production or stock with used, refurbished, reclaimed, or returned parts.

# Who Are These Sources?

- **Category 1:** The contractor shall obtain such parts from
  - the original manufacturer
  - their authorized suppliers
  - or from suppliers that obtain such parts exclusively from the original manufacturers of the parts or their authorized dealers.
- **Category 2:** The contractor shall obtain such parts from suppliers identified by the contractor as contractor-approved suppliers, subject to certain conditions (see following qualification).
- **Category 3:** The contractor may buy such electronic parts subject to certain conditions.

# DFARS Electronic Supply Chain Model



# Source Qualification

- **Category 1:** - normal processes
- **Category 2:** - identified by the Contractor as contractor-approved suppliers:
  - For identifying and approving such contractor approved suppliers, the contractor uses established counterfeit prevention industry standards and processes (including inspection, testing, and authentication)
  - The contractor assumes responsibility for the authenticity of parts
  - The selection of such contractor-approved suppliers is subject to review and audit (and approval) by the contracting officer.

# Source Qualification

- **Category 3: -**
  - Promptly notify the Contracting Officer in writing.
  - Be responsible for inspection, testing, and authentication, in accordance with existing applicable industry standards
  - Make documentation of inspection, testing, and authentication of such electronic parts available to the Government upon request



# Government Sources

**Contractors and subcontractors are still required to comply with the requirements of paragraphs (b) and (c) of this clause, as applicable, if—**

- 1. Authorized to purchase electronic parts from the Federal Supply Schedule**
- 2. Purchasing electronic parts from suppliers accredited by the Defense Microelectronics Activity; or**
- 3. Requisitioning electronic parts from Government inventory/stock under the authority of 252.251-7000**

**The Government is responsible for the authenticity of the requisitioned parts.**



# Traceability

If the Contractor is not the original manufacturer of, or authorized supplier for, an electronic part, the Contractor shall—

1. Have risk-based processes (taking into consideration the consequences of failure of an electronic part) that **enable tracking of electronic parts from the original manufacturer to product acceptance by the Government**, whether the electronic part is supplied as a discrete electronic part or is contained in an assembly
2. If the Contractor cannot establish this traceability from the original manufacturer for a specific electronic part, be responsible for inspection, testing, and authentication, in accordance with existing applicable industry standards



# Traceability (continued)

3. And maintain documentation of traceability or the inspection, testing, and authentication required when traceability cannot be established in accordance with FAR subpart 4.7;
4. Make such documentation available to the Government upon request.

# Subcontracts

- The Contractor shall include the substance of this clause, including this paragraph (e), in subcontracts, **including subcontracts for commercial items** that are for electronic parts or assemblies containing electronic parts, unless the subcontractor is the original manufacturer.
  - **246.870-3 Contract clauses**
  - Use the clause at 252.246-7008, Sources of Electronic Parts, in solicitations and contracts, including solicitations and contracts using FAR part 12 (Acquisition of Commercial Items) **procedures for the acquisition of commercial items, when procuring**—
  - (1) Electronic parts;
  - (2) End items, components, parts, or assemblies containing electronic parts; or
  - (3) Services, if the contractor will supply electronic parts or components, parts, or assemblies containing electronic parts as part of the service.

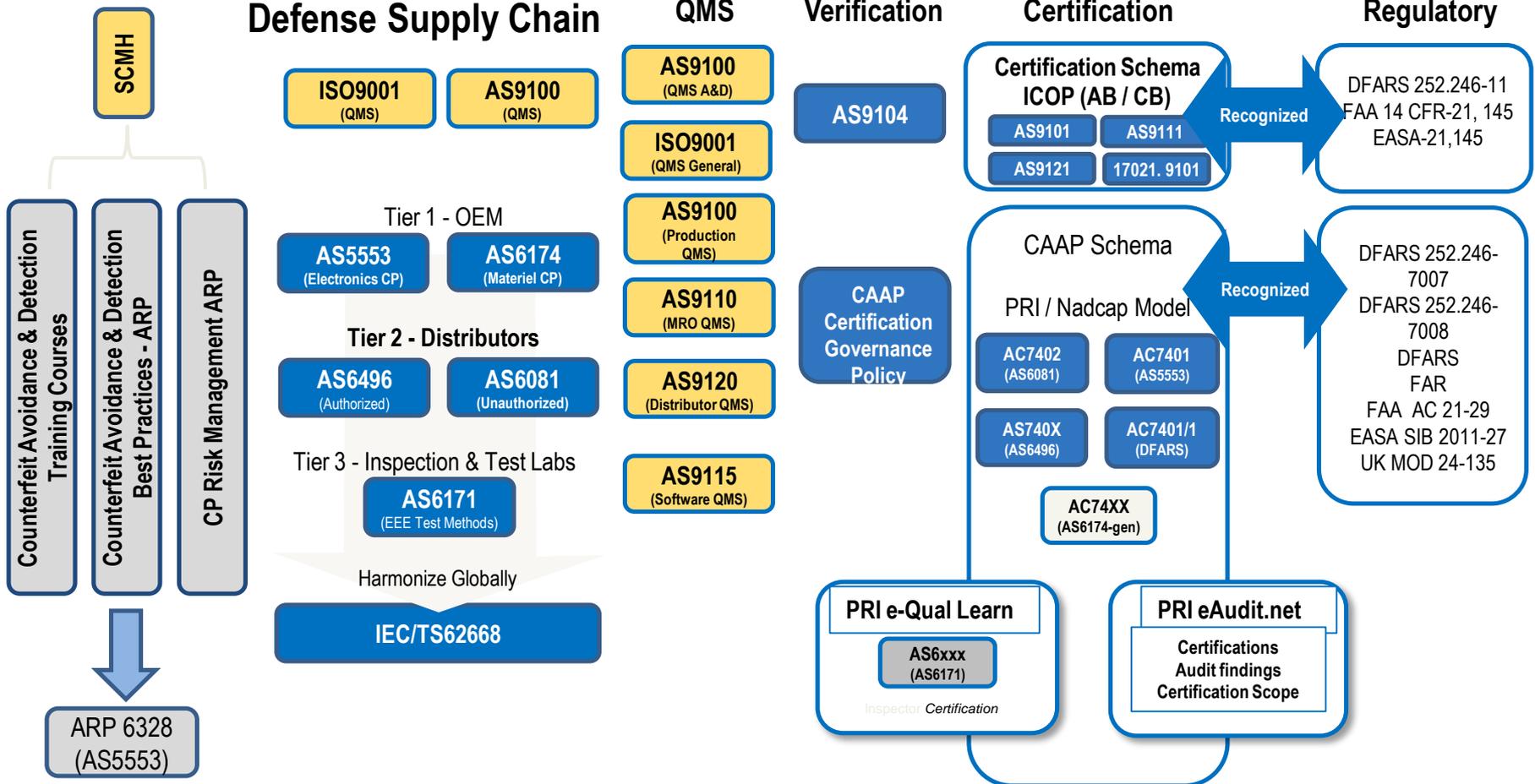


# Standards Approach to DFARS Compliance



# Standards Architecture

## Tier 0 – Aerospace & Defense Supply Chain



**A standards based approach for DFARS compliance**

# Why Do We Care?

- ICC estimates counterfeit goods were worth \$650 billion in 2008
- By 2015, ICC expects the value of counterfeit goods globally to exceed \$1.7 trillion.
  - 2% of the world's total current economic output
- “Phony medicines”
  - Can result in the deaths of people using them
  - Medicines with insufficient doses can lead dangerous pathogens to become resistant to legitimate drugs.
- Examples of counterfeit or mislabeled products having fatal consequences
  - Toxic cough syrup in Panama
  - Tainted baby formula in China
  - Fake teething powder in Nigeria



**"When the toy that you thought was from Disney contains lead paint, then you care."**

# Why Do We Care?

- **\$5 Million worth of fake degrees and diplomas for fake schools**
  - None of the colleges had any faculty or courses
  - Associate Degree was \$475, a Bachelor's Degree was \$495, Masters Degree was \$525, and a Doctoral Degree was offered for \$550
- **Cigarette smuggling causes \$50 Billion in lost tax revenue to governments around the world**
- **Counterfeit vodka operation that was managed by the Irish Republican Army (IRA)**
  - Fake alcohol from Eastern Europe and filled empty bottles with counterfeit alcohol
- **A 10 day crackdown against counterfeit drugs coordinated by Interpol in May 2014 lead to 8.4 million doses of fake drugs.**
  - 10,603 websites that were selling counterfeit medicines were shut down.

# Summary

- *Traditionally industry systems and methods were not designed to detect deliberate and deceptive product alterations*

**Systems based on trust are no longer trustworthy ...  
Trust but Verify!**

- *Continue to Evolve Educate, Communicate & Enforce Prevention Measures*
- *Government requirements continue to grow for counterfeit avoidance systems at all tiers of the supply chain*

**Threat is Real & Growing...  
Prevention Methods Must Out Pace the Threat!**



# Reference Definitions

# Definitions

- Authorized aftermarket manufacturer means an organization that fabricates an electronic part under a contract with, or with the express written authority of, the original component manufacturer based on the original component manufacturer's designs, formulas, and/or specifications.
- Authorized supplier means a supplier, distributor, or an aftermarket manufacturer with a contractual arrangement with, or the express written authority of, the original manufacturer or current design activity to buy, stock, repackage, sell, or distribute the part.
- Contract manufacturer means a company that produces goods under contract for another company under the label or brand name of that company.



# Definitions

- Contractor-approved supplier means a supplier that does not have a contractual agreement with the original component manufacturer for a transaction, but has been identified as trustworthy by a contractor or subcontractor.
- Electronic part means an integrated circuit, a discrete electronic component (including, but not limited to, a transistor, capacitor, resistor, or diode), or a circuit assembly
- Obsolete electronic part means an electronic part that is no longer available from the original manufacturer or an authorized aftermarket manufacturer.

# Definitions

- Original component manufacturer means an organization that designs and/or engineers a part and is entitled to any intellectual property rights to that part.
- Original equipment manufacturer means a company that manufactures products that it has designed from purchased components and sells those products under the company's brand name.
- Original manufacturer means the original component manufacturer, the original equipment manufacturer, or the contract manufacturer.



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## Questions?

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