Counterfeit products—that is, any goods or packaging that bear a trademark that is virtually the same as one registered to an authorized trademark owner—are one of the most significant global threats to brands and those who hold intellectual property rights to them. They also pose significant risks to public health and safety, the economy, and even national security. Given consumer and organizational dependence on branded products, virtually everyone is vulnerable to counterfeits and has a stake in preventing, identifying, and responding to their occurrence. The multifaceted nature of product counterfeiting calls for an equally multidimensional response that is both strategic and comprehensive. This report attempts to provide some context for developing such a response. It compiles the ideas and perspectives of a diverse array of experts—including representatives of brand owners, industry associations, law-enforcement agencies, private service providers, and academia—who are leaders in the global fight against product counterfeiting. In particular, it identifies and discusses critical aspects of the counterfeiting problem that need to be considered over the next five years.

This A-CAPP Paper was supported by Underwriters Laboratories. The ideas expressed herein are those of the authors and do not necessarily represent the opinions of Underwriters Laboratories.

About A-CAPP

The Michigan State University Center for Anti-Counterfeiting and Product Protection (A-CAPP) is the first and only academic body focusing on the complex global issues of anti-counterfeiting and protection of all products and brands, across all industries, and in all markets. Linking industry, government, academic, and other stakeholders through interdisciplinary and translational research, education, and outreach, the A-CAPP Center serves as an international hub for the development and dissemination of evidence-based anti-counterfeit and brand protection strategy. For more information and opportunities to partner, contact Dr. Jeremy Wilson, Director of the A-CAPP, at (517)432-2204 or jwilson@msu.edu. Additional information about the Center and all of its products, resources, and training and education opportunities can be found at http://www.a-capp.msu.edu.
Introduction

Few crime problems are as wicked as product counterfeiting. Far from a victimless crime, virtually everyone is touched by it in some way. It affects consumer health and safety, reduces brand-owner profit and innovativeness, diminishes tax revenue while increasing prevention and enforcement costs, fuels organized crime and terrorism, undermines national security, and results in loss of jobs (Wilson & Kinghorn, 2015). While few reliable estimates exist (Government Accountability Office, or GAO, 2010), available evidence indicates the crime is large and growing—from less than $30 billion in trade in the early 1980s (Abbott & Sporn, 2002) to $600 billion more recently (Chaudry & Zimmerman, 2009; GAO, 2010), with some projecting the crime will soon cost nearly $1.8 trillion (BASCAP, 2011), which is more than the gross domestic product of most countries.

Many factors shape product-counterfeiting opportunities. The global economy, accessibility of the Internet, technological advancement, consumerism and demand for low price, variation in cultural acceptance and approval, economic disparity, high profit margins and low risk of detection and punishment, and lack of awareness (by consumers, law enforcement, brand owners and others) all contribute to a large and growing problem (Wilson & Kinghorn, 2015). The schemes necessary for counterfeiting to succeed vary from the most simple to the most complex with a highly sophisticated web of conspirators requiring enormous global resources and coordination. How can we begin to develop responses to a problem so dynamic and overwhelming?

One useful starting point may be to contemplate how the world and field of brand protection is changing, and identify what we need to be thinking about and doing now to address product counterfeits most effectively and efficiently in the near future. A multifaceted problem like product counterfeiting requires an equally multifaceted response that is both strategic and comprehensive. Where one begins depends on where one sits. Given the complexity of product counterfeiting and that many types of individuals and organizations are actively involved in understanding, detecting, preventing, and reacting to counterfeits in legitimate and illegitimate marketplaces, it is helpful to draw upon the expertise and perspective of many types of public and private stakeholders.

Professional conferences held by the International Anti-Counterfeiting Coalition, Interpol, and Underwriters Laboratories on brand protection and intellectual-property rights enforcement since 2013 have given considerable attention to enforcement, cross-cultural issues, and education and awareness. While other forums with different specialties may discuss other topics, virtually every conference of these organizations discussed these topics in recent years. At the same time, given the growth of the problem, the field is likely rapidly evolving—and the topics of interest to it may be rapidly evolving as well.

To gauge evolving issues in the product-protection field, and to generate public discourse and provide context for stakeholders on these issues and how to respond to them, this report seeks to generate insight and ideas about global change and how brand and intellectual-property protection efforts might need to be adapted or bolstered to address future risk. It seeks to spur stakeholders to think more
proactively about what will be most important over the next few years and what they can start doing now in the global fight against counterfeits.

This assessment has two components. First, as part of the June 2015 Underwriters Laboratories Brand Protection Conference in St. Petersburg, Florida, I facilitated a panel on “Brand Protection and IP Crime 2020: Getting Ahead of the Curve.” I asked each of the four panelists—a brand-protection executive at a multinational brand-owning corporation, a law-enforcement representative, an academic, and an intellectual-property attorney—to prepare brief remarks responding to the statement:

*Product counterfeiting is a growing global risk with multidimensional, detrimental effects on businesses, consumers, economies, and society. Many factors facilitate both the demand for and supply of product counterfeits, and there are many ways brand owners, law enforcement officials, legislators, and others can respond to and prevent the crime. From your perspective, please identify one of the most important developments, trends, innovations, strategies, circumstances, or issues shaping the risk to product counterfeiting and to which effort should be placed over the next five years to combat it. Please describe why you think this topic is important, what should be done about it, and who should lead the effort.*

I then facilitated a discussion among the panelists and audience, comprising about 25 representatives of industry, law enforcement, academia, and private-sector service providers.

Second, I developed a diverse, purposive sample of 16 brand-protection leaders including representatives of brand-owner companies and industry associations (7), law enforcement agencies (3), academia (3), and private-sector service providers (3). I asked them each to respond in about 500 words to the same statement.

The remainder of this report is comprised of three components. The first is a brief overview and synthesis of the issues raised by conference participants and contributors. The next component summarizes the conference discussion, while the last provides the complete written responses provided by contributors, organized by stakeholder group. These contributions are provided essentially as written (only minor copy edits were made where necessary—no substantive changes were made).

**Emerging Themes**

The issues raised in the panel discussion and written contributions point to a large and diverse group of challenges and opportunities that need to be considered now and in the coming years. To discern these, I employed a grounded-theory approach (Glaser & Strauss, 1967; Singleton & Straits, 2010) to provide a general framework. First, I attempted to identify each of the issues discussed throughout the panel discussion and by the contributors, and noted which stakeholder group raised the specific issue. Second, I attempted to identify broad themes under which the issues could be categorized. This process yielded 70 issues, which I classified into 15 broad themes.

Readers should remember three notes of caution in interpreting these results. First, because I did not choose respondents at random, their responses may not represent their larger stakeholder groups (e.g., just because most industry respondents identify a specific issue does not necessarily mean that a majority all industry professionals have the same opinion). Second, the sample sizes vary by stakeholder group, and some individuals discussed more than one issue. This means that caution should be exercised when comparing numbers of responses across stakeholder groups (e.g., there are many more representatives of industry than of private-sector services providers, so we would expect industry
representatives to raise any particular theme more frequently). Third, the identification of themes and the categorization of issues are subjective.

**Primary Themes**

I classify themes as primary, secondary, or tertiary, depending on the number of issues identified as underlying them. Primary themes have at least seven related issues. Secondary themes have four to six related issues. Tertiary themes have one to three related issues.

Nearly half of the issues raised fell into one of four primary themes. As Table 1 shows, the most common theme was analysis and information-sharing—also a more-frequent theme at Interpol and Underwriters Laboratories conferences this year than in previous years. Academic respondents were most likely to raise this theme, noting specific issues such as the need to align research with brand-owners’ goals, as well as the need for empirical research on effectiveness on counterfeiting networks and enforcement strategies. Service providers also raised some analysis issues, though no industry representatives did, despite their relatively large number among respondents.

One of the academic contributors noted the need for a better understanding of counterfeiting networks, including “how individuals and groups collect their expertise so that they can create and distribute counterfeiting products, who supports these networks, and how these relationships are fostered.” This same contributor noted the need for research on law enforcement and investigative strategies in counterfeiting similar to that regarding other crimes. An academic participant at our panel discussion noted the need to fill in the “dark figure” regarding the extent of counterfeiting, and thereby remove conjecture on its prevalence.

The second-most common theme was education and awareness, including that among producers, consumers, and lawmakers. This was particularly a concern of industry representatives, and, as noted, has been a frequent theme at other conferences in recent years.

One industry representative claimed “that industry’s lack of acknowledgment of the fact that most IPR [intellectual property rights] infringements are criminal acts” poses a problem to combating product counterfeiting. This same representative added that “ideological opposition to IPRs generally based on … lack of ‘social harm’ can also pose an obstacle to enforcement efforts. Another contended that “[o]nly when an issue reaches critical mass” and “society understands that complacency breeds illegal activity” will global action be taken against the problem. A third emphasized the need to make consumers aware that “[t]he online shopping boom has been accompanied by an equally large boom in counterfeiting” and that “they need to take commonsense steps to avoid purchasing dangerous imposter goods.”
A law-enforcement participant in our panel discussion noted the need to show stakeholders that intellectual-property rights violations are not a victimless crime. Another noted the need to raise awareness among consumers, and that “elevat[ing] this issue into the public’s general consciousness . . . will make counterfeiters’ jobs much more difficult.” Somewhat surprisingly, academics, whose primary professional responsibilities include education did not raise many awareness and education issues.

The third-most discussed theme was technology, including product protection and authentication technology and technological components for use in identification, a theme that has been mentioned sporadically at other conferences in recent years. Service providers raised this theme more than any other. One wrote of efforts “to perfect and integrate anti-counterfeit and authentication applications that already exist and to develop the next generation of solutions,” including “the U.S. Food and Drug Administration’s recent implementation of rules regarding ‘Unique Device Identification.’” A law-enforcement representative on our panel discussion noted the growing need for scanning devices to use in the field.

The fourth primary theme centered on consumers, a topic that does not appear to have received considerable attention at International Anti-Counterfeiting Coalition, Interpol, and Underwriters Laboratories conferences in recent years. All four groups of respondents cited the need for a consumer focus, including self-perception and changing the perception of buying fake products. One industry representative noted that, contrary to claims that “‘You can’t die from buying a fake T-shirt or downloading an unauthorized album,’” that “you can, actually—if the profits finance terrorism or organized crime like drugs, vice, and illegal arms.”

Secondary Themes

About one-third of the issues raised fell into a secondary theme (see Table 2). Most prominent among these were the need for partnerships and supply-chain security, topics mentioned sporadically at other conferences in recent years. Law-enforcement respondents most frequently discussed the importance of partnerships. One on our panel discussion stressed the importance of collaborative efforts, but noted private partners lack enthusiasm—and that marketing concerns take precedence over brand protection. Another wrote of partnerships of the National Intellectual Property Rights Coordination Center with U.S. and foreign authorities.

Supply-chain security was important for industry respondents and service providers. Illegitimate supply chains, as noted in one of the essays submitted for this work, are those that suffer “from some type of network corruption, resulting in a divergence of goods, funds, components, materials or services from those entitled to them.” Consumers downstream may or may not know if they are buying an authentic item, an item that was substituted “in entirety,” or a “valid” product.

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with one or more illegitimate components or ingredients. The result, a brand-owner executive told our panel discussion, is that producers need to map and monitor their supply chains consistently. One of our essayists also writes of the need for a “product-risk map, dashboard metrics, and process controls” in monitoring supply and products.

Focusing on specific products and enforcement were the other two secondary themes. Enforcement, as noted, has been a consistent theme at other conferences in recent years, while specific products have been mentioned sporadically, but particularly at Interpol conferences in the past two years. Each stakeholder group except academics noted the importance of these themes and their rates of identification are fairly consistent between the themes. Law-enforcement representatives on our panel discussion noted the small size but rapid growth of IPR enforcement teams, and that different strategies, including threat of prosecution, can spur action and cooperation if done correctly. Regarding specific products, a law-enforcement representative wrote of the particular dangers posed by counterfeit pharmaceutical and electronic products, while a brand-owner executive told our panel discussion that ingestible products are the top priority in combating counterfeit goods.

**Tertiary Themes**

Tertiary themes mentioned least frequently covered a wide range of topics from the Internet to legislation to seller-licensing issues (see Table 3). One industry representative writes of the Internet, a sporadic topic at other conferences of recent years, being a “two edged sword” that can facilitate both legitimate and illegitimate commerce, as well as of the need to better understand China, the source of many illegitimate goods but also of a very large and growing market for legitimate ones. Another contends that the Internet will likely be “the single largest element of illegal activities involving fraudulent elements against brands in 2020.” Legislation appears to have been a sporadic concern at other conferences, but possibly a continuing one for industry representatives at our panel discussions. Industry representatives submitting essays for this work noted the need both to have punishment for product counterfeiting reflect the scale of the crime and for firms to ally in pushing for appropriate legislation.

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<th>Tertiary Themes Raised in the Panel Discussion and by Contributors</th>
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Concluding Thoughts

The analysis of the issues discussed by the brand protection experts confirms the adage noted above: where one begins depends on where one sits. These professionals identified the critical importance of 15 different themes shaping the risk to product counterfeiting and which will require effort over the next five years to combat it. While there was some consistency in the prioritization of some themes between stakeholder groups, there was considerable variation as well. In fact, there was no theme that two groups considered the most important. Industry prioritized education and awareness. Law enforcement focused on partnerships. Academics centered on analysis and information-sharing. Service providers honed in on technology.

The two themes discussed most extensively—information-sharing/analysis and education/awareness—are areas where academia can add critical value. Moreover, these are important areas that can be advanced through partnerships, which is the fifth-most noted theme. Yet, historically, academia has not played a primary role in advancing brand protection and serving as a partner for combating product counterfeits. There are considerable opportunities for advancing these efforts in the future. In fact, this report, a collaboration among industry, law enforcement, academia, and service providers, exemplifies the value of collaboration among these important perspectives.

By contrast, contemporary discourse and efforts often highlight the activities and importance of enforcement, access to and the criminal opportunities provided by the Internet, and cross-cultural issues, so one might expect these themes to be featured more predominately among the key issues. Although these topics were raised for prioritization, they were not among the primary themes identified by these particular individuals.

Several themes are cross-cutting. For example, an intellectual property-rights attorney told our panel discussion that the effects of anti-counterfeiting education may vary by product, making little difference for luxury goods but possibly having more impact on pharmaceutical products. Similarly, an industry representative noted the connection between legislation and cultural issues in writing that legislation should “recognize that counterfeit goods are as illegal as any other prohibited good, and as such, should be fought, no matter their status.”

Collectively, this assessment suggests areas on which to focus brand protection efforts through 2020. Such efforts may dispel some common assumptions, and perhaps even suggest some new concerns and opportunities to which resources, thinking, and effort should be placed to effectively and efficiently address changes in the global risk to product counterfeiting.

Conference Panel Discussion

As noted, one of the components reported here was a panel discussion on “Brand Protection and IP Crime 2020: Getting Ahead of the Curve,” held as part of the June 2015 Underwriters Laboratories Brand Protection Conference in St. Petersburg, Florida. In addition to four panelists—a brand-protection executive at a multinational brand-owning corporation, a law-enforcement representative, an academic, and an intellectual-property attorney—invited to prepare brief remarks on anti-counterfeiting needs in the next five years, the session included about 25 representatives of industry, law enforcement, academia, and private-sector service providers. Below I summarize the prepared remarks and the ensuing discussion.
The academic participant noted the need to align research with brand-owners’ goals. Research can add value to brand-protection efforts, he said—especially if an objective partner is willing to share or otherwise grant access to data. Such efforts, he said, can help fill in the “dark figure” and remove conjecture regarding the prevalence of counterfeiting—and lead to sound science regarding it. Later discussion also noted the need to create partnerships, perhaps including through intermediaries, for other areas of product counterfeiting, including reducing adversarial relationships with law-enforcement authorities.

The brand-owner executive emphasized several issues related to supply chains. In particular, he noted the need to educate companies about the origins of their product components. He highlighted an increased focus on intermediary components that do not receive much attention and are “invisible” to the general public. Ingestibles, he said, are currently the “number one priority” for enforcement. He also noted other countries may not have penalties for counterfeiting or a system of detection or interdiction for counterfeit goods. This may result in counterfeit products being returned to their country of origin where they are modified and shipped again. Overall, he suggested, this requires brand owners to consistently map and monitor their supply chain. Later discussion regarding the need to incorporate governmental regulations and differences by country in supply-chain monitoring noted the need to have firm representatives train customs officials on identifying products, to prioritize based on the most important issues and products, and even the need to be wary of threats to or kidnapping of officials if local governments are pushed in the wrong way.

The law-enforcement representative noted the rapid growth in efforts and recognition of intellectual-property crime. In 2008, he said, his organization had a two-person team focusing on intellectual-property crime. Today, that team has seven members, and focuses on hazardous and harmful products as well. Europol, he noted, has secured a platform for experts in this area. This reflects growing awareness elsewhere, he said, noting that in 2014 the European Commission recognized intellectual-property crime as its top priority. There is also awareness, he said, through increasing online presence and seizing of websites that market counterfeit goods. Still, he said, there is a need to show stakeholders that intellectual-property crimes are not victimless, that they can directly and adversely affect many persons. Emerging product areas of concern, he noted, include pharmaceuticals, medical equipment, batteries, energy-saving bulbs, and pesticides. Addressing these concerns, he said, will require collaborative protection.” Later discussion noted that online marketplaces do not want to spend money to police their own sites, but law enforcement could take the first step and offer incentives for such self-policing, using a strategic, multi-layered approach rather than only a “hammer.” Later discussion also noted that different strategies, including threat of prosecution, can also spur action and cooperation, if done correctly. Scanning devices for use in the field can also boost anti-counterfeiting efforts, the law-enforcement representative on the panel noted.

The intellectual-property attorney echoed some of the points raised by others. Information access and sharing, he said, leads to action, noting the need to “break down silos.” Similarly, like the brand-owner executive, he emphasized the need to know the product location at all points along the supply chain. Finally, he noted the growing use of technological components for use in identification.
Other topics of discussion among the broader group of participants included the risk that three-dimensional (3D) printing could present and the role of consumers in preventing counterfeiting. Participants considered 3D printing to be a “top priority,” and a “game changer” in the fight against counterfeiting, noting that we may only be a “few years away from parts printing,” which in turn would lower the barriers to entry for potential counterfeiters. Possible means mentioned to mitigate this threat include monitoring product files and developing unique product identifiers.

Several participants noted the role of consumers, whether active or passive, in the fight against counterfeits, with one referring to the “power of a savvy shopper.” One participant noted the need to change the perception of the novelty of buying fake products, asking, “how do you get people to care?” Another noted the need to address cognitive dissonance in consumer decisions, including ways they rationalize the purchase of counterfeits, but added that the effects of consumer education may vary by product. Education may be less likely, for example, to affect the demand for counterfeit luxury goods than it is for counterfeit pharmaceuticals.

**Industry Perspectives**

**Industry Needs to Respond to the Trade in Crime (Not the Criminal Trade)**

*John Anderson*

*Chairman, Global Anti-Counterfeiting Network, IPR Enforcement Strategy and Communications Consultant*

Being asked to write only about a solution to product counterfeiting, for me, exemplifies one of the main barriers to a strategic solution. I believe there are two related strategic challenges: industry needs to work together address the theft of all intellectual property (IP) rights: copyright and related rights, trade marks, geographical indications, designs, plant varieties, and yes, even patents! It is arguably rights-holders’ diversity of response to IP infringements that has been one of the major problems with the campaign against counterfeiting and piracy. And further, I believe that industry’s lack of acknowledgement of the fact that most IPR infringements are criminal acts is also a stumbling block. The still growing addiction to treating IPR infringements as a trade issue may be politically comforting to industry but it is increasingly negative for the international campaign against IP crime such as counterfeiting and piracy.

But it is vitally important that trademark industries especially stick together. There is no justification for either the private or the public sector to separate out “dangerous fakes.” Dangerous products are dangerous because they are dangerous—and there are separate laws which makes that a crime—not because they are fakes. There is a long history of authorities only responding to calls for increased enforcement of IPRs if the products are dangerous. “You can’t die from buying a fake T-shirt or downloading an unauthorized album,” they say. Well, yes, you can, actually—if the profits finance terrorism or organized crime like drugs, vice, and illegal arms.

But, you may argue, the existing framework of international IPR enforcement legislation is all based on trade relations: the TRIPS (Trade-Related Aspects of Intellectual Property Rights) agreement; the many bilateral and regional free-trade agreements – even the soon-to-be long-forgotten ACTA (Anti-Counterfeiting Trade Agreement). Although all these treaties (and presumably also the upcoming TTIP and TPP plurilateral treaties) have references to criminal sanctions for IP infringements, they simply amplify the misleading perception that infringers are being criminalized because of unfair terms of trade or at the very least unfair income distribution and not because they are invariably organized and serious criminals. And the now-prevalent notion that counterfeiting and piracy must be on a commercial scale...
to be criminal is increasingly misleading. Why shouldn’t the theft of one article (unauthorized content or fake product)—and it is never only one—be treated differently from, say, the theft of a small item from a shop? There are degrees of crime in most jurisdictions and there could be degrees of punishment for IPR crime.

Of course the main argument to support the focus on IP crime rather than on IP trade infringements is that the main players in the production, distribution and retailing of fake goods and content do not recognize any of the nice distinctions between IPRs. They are perfectly happy to create and distribute unauthorized content for downloading one day and manufacture and sell fake handbags the next all while financing plans to market fake pharmaceuticals. And as long as there is an ideological opposition to IPRs generally based on trade considerations, lack of “social harm,” tolerance of freedom of expression, etc., there will be an opportunity for such opponents to grossly exaggerate the potential negative impact of IPR enforcement on “citizens”.

The Internet – A Two-Edged Sword
Ron Davis
Senior Director, Brand Protection, Qualcomm

Counterfeiting continues to be a serious and growing problem globally. It is difficult to assess the scope of the problem, but the International Chamber of Commerce (ICC) estimated that, by the end of 2015, the value of counterfeit goods globally would exceed $1.7 trillion.

Many factors contribute to this growth, but none as significant as the growth of the Internet and the acceptance of online purchasing by consumers. That acceptance, combined with the financial rewards and minimal risks to the counterfeiters selling online, creates the “Perfect Storm” for continued rapid expansion.

Fortunately, there are several steps a brand owner can take to mitigate their online risks. These are to

- Ensure your marks are registered (Patent Office) and recorded (Customs) worldwide.
- Embrace the new business axiom--“Think and Act Globally.”
- Rank your products and/or trademarks by importance and choose your top sellers to protect first.
- Conduct regular online searches on B2B (business-to-business) and B2C (business-to-consumer) sites for products in your portfolio.
- If possible, include overt and covert marking technology in your packaging, to quickly and positively identify which products are genuine and which are counterfeit.
- Identify the online sites which carry the most traffic. Currently, Taobao in China is the most highly trafficked B2C site in the world, with approximately 130 million daily users.
- Initially concentrate your enforcement efforts on the larger sites selling counterfeits of your products, who also have high levels of enforcement. These sites include Alibaba, Aliexpress and Taobao.
- Get aggressive in requesting delistings for counterfeit goods on these sites, to reduce your overall volume of infringements.
• Use available technology to identify patterns and similarities in listings and to detect high-volume sellers who warrant additional focus.
• Hire or engage local brand protection experts with language, cultural and legal knowledge to be your first line of defense and enforcement.
• Become active in intellectual-property rights and anti-counterfeiting associations such as the Quality Brands Protection Committee in China, to increase your network of knowledgeable professionals with similar problems and drive for stronger anti-counterfeiting laws.
• Utilize the intelligence you glean from combating counterfeiters to gain insights and develop actions to build your sales.

Although China is the largest source of counterfeit products, it also provides the largest opportunity for reaching potential customers. Chinese online shoppers currently number more than 250 million and e-commerce sales in China exceed those of the United States. The key to success in your anti-counterfeiting efforts and your sales efforts is for you and your management to understand the culture of China.

Witt’s (2012) first of The Ten Principles For Doing Business In China provides a good road map for this. As he writes, “Get your top management team to take a week off to go to experience China. While in China, take them outside the usual experience of Audi limousines and luxury hotels and arrange for exposure to experiences relevant to your business—for example, do store checks or visit private homes of average citizens. Take the team to a fourth-tier city and to the countryside for a more holistic picture.”

Good or bad, the Internet is here to stay and we need to find better ways to harness the good and effectively deal with the bad.

The Shift to Virtual Marketplaces
Leah Evert-Burks
Director of Brand Protection, Deckers Outdoor Corporation, retired

The marketplace has shifted. We still see counterfeits being imported into major markets by shipping containers and in other means of bulk shipment, at times, but not as we have seen in the past. For consumer products, the marketplace is the Internet and the percentage of on-line to brick and mortar purchases will continue to increase as the consumer continues to prioritize convenience when shopping. With this shift on-line, counterfeiters have access to a consumer-base of millions with very low operating costs. It merely takes a computer, some easily accessible enabling tools such as a domain registry, search-engine optimizer, payment providers, shippers, and a worldwide storefront to establish a business. And this storefront can be quickly replaced if enforced against. This also allows the counterfeiter to operate off-shore and therefore previously utilized means of enforcement are typically not available or out of reach. We have been successful in our website litigation utilizing the U.S. District Courts but counterfeiter’s shifts of behavior away from the cooperative payment providers such as Pay Pal due to the effectiveness of our program leaves us with the slow-responding network of credit cards as enablers. The Internet will continue to be the marketplace in which we focus, so we need to develop better cooperation and mechanisms to make enforcement activities effective.
Consumer education is also essential in this on-line marketplace world. Brands need to develop education that gets the anti-counterfeit message in-front of the consumer’s purchase. There is still a great divide among the brands as whether they are willing to stick their toes into these waters, but given the abilities of the counterfeiters to fool consumers on-line it can no longer be a choice not to inform your consumers. Along those lines, technologies to assist consumers with authentication are one of the leading priorities and essential trends in anti-counterfeiting. Stated simply, if you are going to arm consumers with education, you need to also arm them with an array of tools including the ability to authenticate the good, the website, or the marketplace selling the goods.

Protecting Brands and Fighting Fakes
Mark Elliott
Global Intellectual Property Center, U.S. Chamber of Commerce

In 2014, consumers spent 7 percent less in stores during the holiday season. Instead, many consumers are looking to purchase goods of all kind online (Sterling, 2014). That’s largely because they’re shopping online in record numbers. ‘Cyber Monday’ has given way to ‘Cyber Everyday.’ Total holiday spending online alone is expected to reach nearly $90 billion (Lunden, 2014).

But consumers should beware. The online shopping boom has been accompanied by an equally large boom in counterfeiting. American consumers need to take commonsense steps to avoid purchasing dangerous imposter goods. And law enforcement must aggressively prosecute the criminals who traffic in and profit from counterfeits.

Counterfeiting is big business. It now accounts for about $400 billion in annual trade. That’s larger than the GDP of Israel or the Philippines (Elliott, 2015). Counterfeiting also afflicts a wide variety of industries. Before the February 2014 Super Bowl, federal agencies seized nearly $22 million in fake NFL goods (Associated Press, 2014). Some 97 percent of online pharmacies are illegal (National Association of Boards of Pharmacy, 2013). There are even more than 1,000 websites selling imposter wedding and prom dresses (American Bridal and Prom Industry Association, 2014).

Like online shopping, counterfeiting is growing fast. The value of the fake goods seized by U.S. Customs and Border Protection has climbed more than 38 percent in the past decade (Elliott, 2015). Scammers are getting increasingly sophisticated. They can create sites that look like official retail outlets. And they cannily exploit social networks to target vulnerable consumers. One study found that more than a quarter of Facebook ads for discount luxury goods were actually selling counterfeits (Erin, 2014).

But these criminals aren’t just peddling shoddy fake handbags. They’re also pushing goods that can put Americans’ health at risk. Fake toys subject kids to choking hazards. Fake airbags can send shards of metal flying into car occupants. In years past, criminals have even sold toothpaste laced with antifreeze trying to pass itself off as Colgate (Associated Press, 2007). Or consider prescription drugs. Globally, counterfeit drug sales now total about $75 billion per year, according to the World Health Organization.
(2010). These pills typically don’t contain enough active ingredient—if any—to treat a person’s illness. And they can be mixed with dangerous substances like lead.

Fake products don’t just hurt consumers. They also undermine the economy. Counterfeiting attacks a cornerstone of American growth: intellectual property. According to the U.S. Department of Commerce (2012), intellectual property generates 34 percent of U.S. gross domestic product, and intellectual property-intensive industries create 40 million U.S. jobs, two-thirds of U.S. exports, and $5 trillion in U.S. output. And these are quality jobs. They pay about one-third more than those in other industries. Women in particular are growing to depend on IP as the foundation for the businesses they start or own. One-third of trademarks went to women in 2010, up from 16.5 percent in 1980 (National Women’s Business Council, 2012). Women held 18 percent of all patents granted in 2010, double their share in 1990.

Entrepreneurs pour huge amounts of time and money into creating new products. They’re denied a rightful return on their investment when counterfeiters swoop in and suck away sales. Such losses drag on the labor market. By one estimate, online counterfeiting costs the American economy 750,000 jobs (Hare and Dinh, 2010).

Law enforcement has a vital role to play in combating this scourge. Already, raids have netted vast caches of counterfeits, and authorities have shuttered hundreds of websites selling fake goods. Despite these efforts, one-third of consumers report that they’ve been tricked into buying counterfeit goods online. Officials should ramp up their efforts to match the magnitude of the counterfeiting problem.

Consumers must protect themselves, too. They can do so by buying exclusively from trustworthy retailers and insisting on secure transactions when shopping online. Missing, broken, expired, or otherwise unusual safety seals and packaging can be other signs of dangerous fake goods. Consumers may want to put a modern twist on some age-old advice—if an online deal sounds too good to be true, it probably is.

**Product Counterfeiting and Internet Growth**

David S. Howard

*Outreach Specialist, Center for Anti-Counterfeiting and Product Protection, Michigan State University*

I believe the current trend in brand fraud, product counterfeiting, mishandling of products, and deceptive practices will continue to grow over the next five years. Many factors will allow, and in some respects encourage, this growth. One of the greatest inventions of my time is certainly the World Wide Web and the prosperity it has brought to many nations and people globally. It is this same prosperity in electronic communication that has permitted the growth of nefarious activities aimed at generating benefits for some at the expense of harm to all others. Left unchecked, I believe the World Wide Web, or Internet as it is now referred, stands to be the single largest element of illegal activities involving fraudulent elements against brands in 2020.

Much has been done in recent years by brand owners to understand the brand attacks on products, to develop anti-counterfeiting strategies, and to take corrective actions to protect brands from illegal activities. Unfortunately, little has been effective. Only when an issue reaches critical mass will activities to stop the problem be funded globally. Only when everyone is aware of the situation and appalled by it will they demand change. Only when society understands that complacency breeds illegal activity will corrective actions be taken.
Imagine a world without the Internet. Imagine trade so irreversibly corrupt that regardless of your efforts you can no longer be assured that anything purchased through the Internet is worthy of owning. Imagine data so corrupt that nothing you read on the Internet is trustworthy nor can it be proven to be factual. Imagine only those that wish to take advantage of society’s ignorance continuing to spread false information and false products. Will society be forced to head back to brick and mortar facilities in local markets? Will it find that due to the Internet and movement of products off shore that what was once a thriving brick and mortar foundation is now no longer available? Are we moving towards a single-source society, not in terms of single products, not in terms of single manufacturers, but in terms of single sourcing of information? And what if that single-source mentality takes future generations’ understanding of the truth and morphs it into a belief that all knowledge is contained on the Internet and all knowledge is freely available to those that want it from the Internet?

It is a frightening prospect and one in which society has to address and get correct before 2020 or we may have lost our single biggest asset to crime and corruption on a global scale. How does one get this urgent message out to people without the use of the very internet that may bring a loss of fact-based data to society? Who should own it? We have five years to figure it out, and the clock is ticking.

The Effective Use of Security Labels Can Help Brand Owners Thwart Counterfeitters

Warren MacInnis

Director, Brand Protection, Global Security & Brand Protection, Underwriters Laboratories

Today we are experiencing global “perfect storm conditions” for the supply of, and demand for, counterfeited and pirated products. Intellectual property theft is a serious international crime that has arguably reached epidemic proportions and continues to grow each year. This criminal activity is as complex, sophisticated, and hard to eradicate as illegal-drug operations. Not only does product counterfeiting rob hundreds of billions from the global economy but it also places the health and safety of the consumer at risk and funds organized-crime groups. Make no mistake: the trade in counterfeit products is a clear, persistent, and direct threat to our economies, businesses, and the health and welfare of consumers all around the world.

Counterfeiting is complex in nature and combating it effectively is difficult. Rights holders face challenges at many levels. Given the complexity of counterfeiting, it is no surprise that there is no “recipe” or “one-size-fits-all” solution. Each rights holder must incorporate their “unique” requirements to achieve the customized intellectual-property solutions they need for their situation. The power of this approach is that organizations are capable of achieving customized anti-counterfeiting solutions but in a more standardized, organized, cost- and time-effective manner. In short, they can reduce risk while ending up with a more effective anti-counterfeiting program!

There are no simple answers to this complex problem but programs can be greatly enhanced by applying proven tools, techniques, and approaches in a structured framework. One of the most critically important areas for rights holders in dealing with the increase in technological threats is to protect their brands through the use of high security labeling solutions.
In order to combat counterfeiting activities, a company must establish an aggressive program that is designed to protect its brand. Part of this program must include physical anti-counterfeiting measures such as innovative security labeling technologies. The ongoing battle between brand owners and counterfeiters has inspired a series of remarkable and innovative technologies to thwart their attacks. Security companies have continually striven to develop technologies and systems for defending intellectual property while counterfeiters continually try to breach their features.

In order to be effective, security labels must possess two key features. First, they must be readily recognizable as a legitimate label. Second, they must contain a number of security levels that are not easily replicated by counterfeiters. The main objective of any brand-protection program is to balance authentication with effective and secure anti-counterfeiting measures.

There are critically important facets of a security-labeling system that must be considered prior to implementing a program. In particular

- The security label must be relatively inexpensive to produce on a cost-per-unit basis.
- The security label must be resistant to attacks by counterfeiters and not easily replicated.
- The security label must contain both overt and covert features.
- The security label must contain attributes that allow law enforcement and customs personnel to differentiate between authentic and counterfeit versions.
- The security label must contain attributes that allow the brand owner to determine authenticity 100% of the time with 100% accuracy.
- The verification process should not require any front-line expensive or sophisticated equipment that needs to be operated or distributed to law enforcement or customs personnel.
- A company must be prepared to support previous labeling technologies for at least five years.

In summary, as technology changes, rights holders need to be more vigilant with product security and look for cost-effective solutions that can thwart attacks from savvy criminals.

**Seizing Every Possibility to Make Counterfeiters’ Lives More Difficult: Giving Back Real Powers to Customs**

Christian Peugeot  
President, Union des Fabricants (French Association Against Counterfeiting)

Nowadays, counterfeiting is more and more difficult to apprehend because this illegal activity is organized, reactive, transnational, industrial, and linked with organized crime, including terrorism. Therefore, lawmakers need to understand quickly that fakes not only harm right holders but also consumers, states, and the whole economic system. They should realize that counterfeiters are not “altar boys” but form dangerous, sprawling networks.

State frameworks to address counterfeiting need to understand the reality of modern counterfeiting networks. Legislation must be strengthened to really dissuade counterfeiters. Enforcement services in charge of fighting against counterfeits should be given the powers and tools to efficiently tackle counterfeiters’ new methods.

Every opportunity to make counterfeiters’ lives more difficult should be seized to discourage this pernicious traffic. If there was one wish I could make to improve the fight against counterfeit in 2020,
it would definitely be to strengthen the control of goods in transit by customs, starting with European Union!

Controlling the movement of counterfeit goods through Europe has been difficult since the infamous case of *Nokia v. Her Majesty's Commissioners of Revenues and Customs* (2009), interpreted to mean that most customs regulations do not apply to goods, counterfeit or otherwise, in transit, though the ruling justice sought to provoke “a review of the adequacy of the measures available to combat the international trade in fake goods by preventing their transshipment through Member States.” Since this case, there has been a 65 percent decrease in seizures of infringing goods as well as an increase of counterfeiting trade in and out of the European market (European Commission, 2014).

Such lack of control over transit of counterfeit goods has put companies at risk by allowing fakes to flood export markets. It has also put consumers at danger as every unstopped counterfeit good remains a potential infringement for its future buyer in terms of safety and health.

One should not forget that the control of infringing goods is respectful of international rules from WTO, which guarantees the free flow of legitimate trade. TRIPS (Trade-Related Aspects of Intellectual Property Rights) agreements do not forbid transit control, but leave to each country establishing a related legal framework. Freedom of movement should not apply to illegal goods, such as counterfeits, and the capacity of their control on transit.

Controlling transit does not slow down legitimate trade. An efficient legal European system of trademark can boost legitimate trade, because it allows establishing trust between economic actors including consumers.

In order to clearly provide agents with efficient powers, legislation should be strong, clear, practical, and recognize that counterfeit goods are as illegal just as any other prohibited good, and as such, should be fought, no matter their status. To fully reach this goal, legislative measures should state that authorities will be involved together with rights owners.

Let us hope that by 2020 lawmakers will seize opportunities to revise legal frameworks to demonstrate their will to defend companies and to show consumers protections within and outside their territories. Countries must be courageous and arm themselves with these indispensable capacities to control the flow of counterfeit goods. Only such behavior will enable countries to promote intellectual property, protect innovation, reinforce markets, and intensify companies' competitiveness.
Law Enforcement Perspectives

The IPR Center: America’s Response to Global Intellectual Property Theft
Bruce Foucart
Director, National Intellectual Property Rights Coordination Center

The threat to United States intellectual property (IP) is diverse, global, and continues to grow larger every day. Infringing goods traditionally were limited to luxury goods, such as counterfeit handbags and watches. However, with the advent of new technologies, combined with the high profits and perceived low risk from selling infringing goods, counterfeits have become increasingly more sophisticated and prevalent. Products in every industry—from automotive to health care products to electronics—are now being counterfeited. Law enforcement officials have seized more than 600 different categories of infringing goods in the United States.

The National Intellectual Property Rights Coordination Center (IPR Center) stands at the forefront of the federal government’s response to combat global IP theft and the enforcement of its international trade laws. Led by U.S. Immigration and Customs Enforcement’s (ICE) Homeland Security Investigations (HSI) and consisting of nearly every major federal investigative agency, the IPR Center ensures national security by protecting the public’s health and safety, the U.S. economy, and our war fighters. It aims to stop predatory and unfair trade practices that threaten the global economy.

To accomplish this goal, the IPR Center pools together resources and expertise of 23 partner agencies, consisting of 19 key federal agencies, Interpol, Europol, and the governments of Canada and Mexico in a task-force setting. The task-force structure enables the IPR Center to effectively leverage resources, skills, and authorities of each partner and provides a comprehensive response to IP theft. The IPR Center is led by an HSI director with deputy directors from HSI, U.S. Customs and Border Protection (CBP), and the Federal Bureau of Investigation (FBI).

While the IPR Center partners employ a strategic approach to combat IP theft that includes overseeing various methods of field interdictions and investigations, any successful strategy must include outreach, training, and messaging. By providing training for domestic and international law enforcement to build stronger enforcement capabilities around the world, the IPR Center actively informs the law enforcement community about dangers posed by this type of crime. Enforcement actions alone will not solve a problem that is estimated to cost the global economy hundreds of billions of dollars each year. While the IPR Center continues to find new and innovative ways to target, disrupt, and dismantle organizations seeking to profit from theft and deceit, it recognizes that this approach only addresses the supply side of the problem.

In order to make a fundamental paradigm shift in the battle to reign in this global issue, we must also reach consumers to drive down demand and raise awareness. Through effective outreach and educational programs, the IPR Center is enacting a new strategy to elevate this issue into the public’s general consciousness, which will make counterfeiters’ jobs much more difficult. Word of mouth is one of the best ways to spread information about dangerous and defective products and those who sell them. A savvier shopper presents challenges to counterfeiters’ ultimate goal of making a
profit by forcing IP violators to spend more time producing more elaborate deceptions. This directly affects counterfeiters’ bottom lines.

**The Need for Enterprise Risk Management in Mitigating Intellectual Property Crime**

John Robertson  
*Supervisory Special Agent, Federal Bureau of Investigation*

Intellectual Property (IP) crime, which includes theft of trade secrets and counterfeiting, is a global issue that does not recognize borders. The major transnational criminal organizations who engage in IP crime do not care about brand protection, safety concerns, or quality control. Over nearly two decades, I have witnessed hundreds of rights holders and dozens of international and domestic law enforcement and regulatory agencies develop strategies to mitigate IP crime. It has struck me that most of these well intentioned strategies were developed in a vacuum. The “inclusive we” have to arrive at the understanding that we are all one large enterprise. This enterprise composed of government and rights holders collectively shares the responsibility to mitigate the risk posed by IP crime. As such, we need to progress beyond insular management of our efforts and develop a collaborative Enterprise Risk Management (ERM) approach that cuts across all sectors.

My definition of ERM corresponds with that of the Government Accountability Office (2005):

> “The continuous process of assessing risks, through a series of mitigating actions that permeate an entity’s activities—the likelihood of an adverse event and its negative impact. Risk management addresses risk before mitigating action, as well as the risk that remains after countermeasures have been taken.”

Criminal enterprises benefit when law enforcement, regulatory bodies, and industry do not share information. Working alone, it stands to reason that one of us will stumble upon newly evolved techniques used by criminals. Traditionally, we tend to develop countermeasures to mitigate the new threat and protect our brand, commodity, or market share. While this may be great for our individual purposes, sharing the information will be better for the enterprise as a whole. By using a cross-sector ERM model of sharing information, we can shorten the lifespan of new threats, share countermeasures, and collaboratively mitigate the risk. This approach has proven to be successful in the public sector, as evidenced by the results of ERM programs in the U.S. Army Corps of Engineers, the U.S. Coast Guard, and the Port Authority of New York and New Jersey (Government Accountability Office, 2008). A strong IP ERM model will also enable us to proactively look toward the horizon to mitigate emerging and future threats.

In order to improve cross-sector coordination, the private sector should be more involved in public-sector endeavors to assess risks, while the public sector needs to recognize the value of technical expertise and resources of the private sector. Through ERM and cross-sector information sharing, we can effectively raise the costs to these criminal enterprises and drive them out of business. To succeed, this collaboration needs to preserve the privacy of affected businesses and prevent information leaks. We need to develop strategies and structures to ensure we can share information in a secure, non-attributable environment.

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1 This article represents the opinions and views of the author and should not be considered the opinions or views of any United States government department or entity.
Managing IP crime risks will become increasingly difficult in an interdependent, global environment. Utilizing the principles of ERM may help stakeholders across all sectors make informed decisions as we combat the threat posed by transnational and local organized crime. We can no longer afford to tackle this threat alone. As Benjamin Franklin, an early ERM proponent, said of the signing of the Declaration of Independence, “We must all hang together, or assuredly we shall all hang separately.”

Public Protection from Dangerous Counterfeit Goods Requires State Regulation of Secondary Markets
Sherri L. Schornstein
Attorney, Washington, DC

Of all the diverse goods that are counterfeited, in my opinion, none demand more public protection than certain things that go in the human body or that carry electrical current. These goods—pharmaceuticals and semiconductors (computer chips)—pose dangerous and even deadly consequences when counterfeited and sold to the unsuspecting public as the genuine article. Sellers are motivated by greed. Enormous profits are made through such sales. I seriously doubt that much of this crime is prevented by prosecuting the few sellers that face justice in the courts. Even more troubling is that these goods are sold through a network of distributors that operate with no oversight. While sellers may obtain local business licenses, they are not regulated occupationally as sellers in these particular industries. Anyone with a phone line and a computer with Internet access can create a seller’s website and be in business. That’s exactly what we found in the cases involving MVP Micro and VisionTech Components, two different companies that were selling counterfeit computer chips to the U.S. Military and across numerous industry sectors. In a similar vein, sales of counterfeit pharmaceuticals have been accomplished by cold calling hospitals and clinics.

There are parallel issues in counterfeit pharmaceuticals and microelectronics. First, shortages of genuine products in both industries create ready targets for counterfeit exploitation. With chips, obsolete parts or low-volume devices with long lead times create a continual demand with no ready legitimate supply. With pharmaceuticals, drug shortages cause patients to seek drugs online from websites which sell counterfeit or fraudulent drugs. Cancer Centers have purchased cancer medications from “fax blasts.” Second, more expensive computer chips and more expensive medications are targeted for counterfeiting due to the premium prices they command. Third, sellers of both kinds of counterfeit goods can make enormous profits—millions per year, with little chance of detection, apprehension, and prosecution. Fourth, awareness and recognition that counterfeit computer chips and pharmaceuticals have entered the U.S. supply chains is a fairly recent phenomenon. Fifth, market scarcity of both products leads buyers to accept goods without proof of traceability to the source.

State governments regulate a wide variety of industries. For example, you need a license to cut hair. But no one dies from a bad haircut. You can die, have an allergic reaction, or not receive therapeutic effect from counterfeit drugs. And counterfeit computer chips can cause a range of terrible consequences, including short circuit, device failure, and explosion, when they end up in military equipment, spacecraft, vehicles, medical devices, public transportation, and home appliances. State governments should require secondary sellers of pharmaceuticals and computer chips to obtain and maintain occupational licenses in order to do business. A convicted felon should be disqualified from obtaining such a license. Getting a license should be contingent on successfully completing certain minimum educational requirements, including counterfeit awareness, avoidance, detection, mitigation, and reporting. Isn’t it time to prevent the free-for-all that can be averted by government licensure?
The Characteristic Crime of the 21st Century: “The counterfeit handbag has a better mark-up than heroin.”
Jay S. Albanese
Professor, Wilder School of Public Affairs, Virginia Commonwealth University

In the same way that larceny (theft) characterized the 20th century, fraud will characterize the 21st century. There has been a fundamental shift in the method by which property is owned and transferred. Table 4 illustrates how the nature of theft has changed from variations of larceny (e.g., real property theft, pick-pocketing and purse-snatching) to variations of fraud (e.g., identity theft, intellectual property theft, skimming and phishing). Counterfeiting is a particularly serious manifestation of fraud in which another person’s intellectual property is used without permission in order to make an illicit profit. Patents, copyrights, and trademarks protect the creations (intellectual property) of inventors, artists, musicians, authors and manufacturers from having their work copied, altered, or sold without permission.

<table>
<thead>
<tr>
<th>Table 4. The Changing Nature of Theft</th>
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<tbody>
<tr>
<td><strong>Older Manifestations of Theft</strong></td>
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<tr>
<td>Larceny and burglary (because property usually held on site)</td>
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<tr>
<td>Real property theft (cash, physical property)</td>
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<tr>
<td>Pickpocketing and purse snatching (because property and cash often carried by individuals)</td>
</tr>
<tr>
<td><strong>Risk higher</strong> (always the possibility of a face-to-face confrontation with the victim and the need to escape quickly from the crime scene to avoid apprehension)</td>
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As Table 4 shows (in the bottom row), the risk involved in committing larceny is higher than it is for fraud, because fraud involves deception and does not usually require any face-to-face contact. This lower risk for offenders is a reason for increases in all forms of fraud.

Prevention is the best long-term strategy for counterfeiting offenses, because improved anticipation of these offenses can reduce the burden on law enforcement, regulatory agencies, consumers, and victimized companies when counterfeit products are discovered in the marketplace.

Three prevention approaches to pursue

The first prevention approach is **document/product risk assessment**. Risk analysis can be conducted of different products and documents at highest risk of forgery or counterfeiting. This risk analysis should assess the relative risks posed by changes in supply, demand, regulation, and competition for various products and services. The assessment can be informed through analysis of past cases (items
that have been targeted before by criminals), interviews with those in business and government (who have knowledge of products and documents in high illicit demand but have not yet been targeted by law enforcement), and interviews with offenders (those already caught for counterfeiting offenses). Increasing the risk of sale (through tighter monitoring of most common sales and transfer methods) and lowering the price to be obtained (through increasing penalties and probability of apprehension for sale and possession of counterfeit items) would have a preventive impact. As one investigator has put it, “The counterfeit handbag has a better mark-up than heroin.” This must be changed.

A second prevention strategy is to address government corruption or sponsorship where it exists. In these situations, the government acts as a competitor in the illicit market to provide counterfeit goods to knowing or unknowing consumers. North Korea is a contemporary example, about which a great deal of evidence has been put forth implicating the government in the manufacture and distribution of both counterfeit cigarettes and currency. This activity has served to further destabilize economies in Asia and has impacted the licensed tobacco industry in North America and Europe. Similarly, China has been at the center of multiple charges alleging counterfeiting goods of all kinds from hair irons to children’s toys. When a government competes with criminal groups, or allows criminal groups to operate unchecked in manufacturing and distributing counterfeit goods, it operates as the protector of criminal organizations, rather than a protector of the public interest. International pressure must be increased to marginalize and penalize outlier countries that do not actively combat counterfeiting and its consumption.

A third prevention avenue is impacting the willingness of consumers to buy goods they reasonably believe are counterfeit. Empirical evidence shows that the consumers of counterfeit goods are often otherwise legitimate members of society, rather than part of a criminal class, making crime prevention a problem of deterrence of both motivated criminals and of motivated non-criminals who choose to buy counterfeit products at low prices. Public education regarding the harms of counterfeit merchandise (in terms of product quality, danger to buyers, and impact on the local economy) must be more robust. In addition, buyers of counterfeit merchandise must be held to the same standard of legal accountability as manufacturers and sellers.

Illegitimate Supply Chains
Roger J. Calantone
Eli Broad Chaired University Professor of Business, Eli Broad Graduate School of Management, Michigan State University
Stanley E. Griffis
Associate Professor, Department of Supply Chain, Michigan State University

A supply chain, viewed holistically, is a complex networked system of organized flows tasked with moving products or services from supplier through producer to customer, and in some case, back to points of origin. The chain comprises the flows of materials, goods, services, money, people, activities, resources, and information, and includes the flow of legal documents accompanying the transfer of tangible and intangible ownership within such flows (Nagurney, 2006).

Over time, branded products develop a reputation for quality, reliability, and value based on the promises made and kept by the producer of such goods. These reputational advantages accrue to the “brand” name and provide a cognitive and affective (emotional) shorthand for buyers in their buying processes as they can speed-search for value when shopping by substituting trust in the aforesaid brand for the usual need to evaluate alternatives in the product set. This is referred to as the brand capturing the hearts and minds of the customer. The ultimate result is a brand-loyal customer who repeats the purchase of that brand on future occasions. Thus, customer reliance on the brand replaces extensive
search and problem solving in the purchasing process. For the customer, this provides efficiency in shopping and an assurance of quality.

For the most part, the operations of a complex supply chain that can deliver a simple breakfast to the table are hidden and are in fact unknown to buyers or consumers of the breakfast. The consumer assumes names on the packages purchased are the actual producers of the contents of these packages, and insofar as they know the producers offer the usual assurances, at least the implied assurances, of merchantability and fitness for use. For example, packages labelled bacon contain actual bacon that was properly prepared. Similarly, the orange juice ‘from Florida’ is actually that and the multivitamin pill consumed with breakfast is likewise the genuine article.

A networked ballet of almost unimaginable complex exchanges occurs daily to provide the goods and services consumed in a modern economy. Hundreds of thousands of freight cars are switched, millions of truckload miles are driven, countless warehouse operations are engaged and finally, products are put on shelves and made available for purchase. One can be amazed that everything works as it should. Yet where there is profit from adding value by moving goods and services, there are those who lurk within the system and corrupt the ballet for illegitimate ends.

An illegitimate supply chain is a supply chain that suffers from some type of network corruption, resulting in a divergence of goods, funds, components, materials or services from those entitled to them. As a downstream example, consider how a consumer might know, or not, if they are buying an authentic item. The item might be substituted “in entirety”, i.e., be a totally fake product, or “in part”, i.e., be a ‘valid’ product, but with one or more illegitimate components or ingredients. This fakery may or may not be known or even suspected by the legitimate brand holder. The consumer may suffer as well as the legitimate supplier.

The consequences to the legitimate economic entities in the chain are multifold and difficult to enumerate. Many things may be compromised including the safety of the consumer, the quality of inputs or outputs of the production or delivery system, the interconnections in modularized systems, system (network) integrity and performance, trust, cash flows of legitimate network members, and ownership and intellectual property rights. At a macro-level this results in the erosion of the economic exchange system in general.

**Understanding Counterfeiting Networks, Their Connections, and How to Disrupt Them**

*Steven Chermak*

*Professor, School of Criminal Justice, Michigan State University*

I come at this issue from a somewhat different perspective. I am a Professor in the School of Criminal Justice at Michigan State University. I have worked closely with A-CAPP and its board members since it was launched, but my focus has been on identifying existing research that might inform the ‘big’ questions that are being considered on counterfeiting, conducting studies to answer some of these questions, and searching for opportunities to
collaborate with industry to do additional work. For example, much of my research over the last five years has been examining the financing of terrorism in the United States. I have examined what funding strategies are used to support terrorist organizations and terrorist acts, and how the criminal justice system responds to financial crime offenders. It should not be surprising to anyone who is concerned about counterfeiting and who has been impacted by it to learn that terrorists and terrorist groups have resorted to product counterfeiting, and some have been involved in fairly significant operations. That is, although it may not be their primary source of funding, it appears that some terrorist organizations are opportunistic and have taken advantage of the potential profits and support that comes from counterfeiting products. What is particularly interesting about the nature of terrorist involvement in product counterfeiting and financial crimes more generally is the network of individuals that work to support, enhance, and further the specific goals of a terrorist scheme. That is, many of these schemes involve a wide variety of non-extremists who provide services, skills, or transportation that allows the scheme to be successful.

Unfortunately, government funding to study additional issues on counterfeiting is quite scarce. This is a significant setback. An honest evaluation of the current state of the empirical literature would find that there are significant gaps and a lot we still don’t know. There are many questions that need to be answered so that brand owners can make more informed decisions about the strategies they use to thwart product counterfeiting.

Two criminal justice-research areas that need particular attention and research support are the following. First, we need to have a better understanding of counterfeiting networks. It is important to know how individuals and groups collect their expertise so that they can create and distribute counterfeiting products, who supports these networks, and how these relationships are fostered. This research would help us understand how these networks function in different places and work to produce and distribute different products. A study that included interviewing counterfeiters in specific locations would provide critical insights into the structures of these networks and, in turn, help industry executives and law enforcement to think strategically about disrupting them.

Second, it is important to know whether the enforcement strategies used by industries have the desired effects. There is actually a large body of research on law enforcement and investigative strategies that have helped police departments be significantly more strategic in deciding how to respond to different types of crimes and offenders. There is a need for similar research on product counterfeiting. This research would focus on identifying best practices and creating an evidence-based understanding of why these strategies work and what might be done to make them more effective.

Private Service Provider Perspectives

Challenges (and Opportunities) for Intellectual Property Border Protection in the 21st Century

Dan Baldwin

Principal Global Trade Consultant, Baldwin Global Trade Consulting

The challenges of protecting global citizens and economies from intellectual property (IP) infringement have never been more problematic. Customs officers from all over the world not only have to try and stem the flood of violative products coming across their borders, they also need to navigate through the latest supply-chain innovations, and vulnerabilities, brought by the incredible growth of e-commerce.
The last decade has not only seen explosive growth in IP applications from all corners of the world, but also a dramatic shift in how infringing products are transported. Historically, the Customs focus was based on the greatest volume of ocean cargo imported into the country, rights holders were looking for the most significant number of detentions, and investigators and prosecutors were looking for the most significant economic harm. Yet today, the majority of Customs enforcement actions on individual shipments occurs in the express and mail environment through e-commerce transactions—more than 80% of US seizures now involve small shipments transported in this way.

With the e-commerce revolution has come a new model for how goods are imported and exported. Virtually every developed country is developing strategies to promote the rapid growth of e-commerce in order to streamline the supply chain, and get products to markets and consumers faster than ever before.

So how can Customs effectively respond to this problem?

There is a successful model in the World Customs Organization Framework of Standards to Secure and Facilitate Global Trade (WCO SAFE Framework). The lessons learned in supply-chain security have taught us one thing: there is no single solution to such a complex problem. A key component of the SAFE Framework is the Authorized Economic Operator (AEO) concept, a partnership forged between public- and private-sector interests to protect the supply chain. Could this be adjusted to protect the supply chain from IP-infringing products?

Recently, one of the largest e-commerce companies in the world, Alibaba, reported spending an astonishing amount—$163 million over a two-year period—to combat alleged IP violations and minimize the impact of counterfeiting and piracy in its supply chain. This is a remarkable figure when taken at face value, and, if accurate, would certainly rival the governmental investment in IP protection in many developed nations. However, there may, understandably, be those who would question the veracity of Alibaba’s claim.

But I would like to offer another point to consider. If Alibaba and other e-commerce giants were to make this kind of investment to protect their supply chain from infringing products, could their efforts be leveraged by Customs in a way similar to how Customs officials leverage AEO companies in matters of security, narcotics interdiction, and smuggling?

With the number of IP-protection issues growing rapidly, the expectation that government and particularly Customs respond is growing even faster. There just simply are not enough resources or funding for Customs to meet these expectations by trying to solve the problem one e-commerce transaction at a time.

As with all challenges, the best solutions are those that involve collaborative partners, who have a common purpose in solving a problem, and who strive to resolve issues in a way that is mutually beneficial. Adding a supply-chain security approach, including a trusted partnership element, to dealings with e-commerce giants and startups will only complement the traditional criminal-law enforcement approach to IP protection.
Is it a Hobson’s Choice?
Richard S. Post
Consultant, Post & Post, LLC

There is a continuing argument concerning the relative impotence of either prevention or deterrence as the key methodology to minimize counterfeiting. Since the effects of copy products are so corrosive to brand owners, society, and the legal system, it hardly matters which approach is taken to initially confront it. What really constitutes the choice is the attitude of the people who own or manage the items and whose revenues are impacted by copy products entering the global marketplace.

A lack of clarity about which model to choose as a starting point for dealing with an actual attack often complicates the issue of what to do. Certainly the traditional choices of prevention, deterrence, detection, and defense are tools used to manage the issue. However, more important is the strategy employed to marshal those four resources.

Decisions about counterfeit issues revolve around the following key points.

**Prevention**
- Value is inherent in each product and must be assessed down to its DNA or molecular level to maximize revenue value over time.
- Lifecycle revenue-recovery plans must be developed and used to manage risk across time and value.
- Legal and process controls are essential.
- Control over ‘who touches the product’ must exist for the entire supply chain.
- Executive responsibility must be clear for product protection.

**Deterrence**
- Implement strategic protection plans for each product across time and expected revenue.
- Build in risk-reduction features.
- Engage customers and public in methods to control copies.
- Incorporate fail/safe controls.
- Engage employee participation and responsibility for protection.

**Detection**
- Maintain early-warning system to identify product attacks.
- Have a sales/marketing process that highlights anomalies in marketplace.
- Have PR and advertising provide guidance on ‘what to do?’ if copies found.

**Defend**
- Be aggressive in intellectual-property protection.
- Streamline product-identification systems: can you quickly tell if it’s your product?
- Investigate all attacks: suspected or actual.
- Develop a database for product protection: grey-market, copy, returns, non-genuine.
If the following Eight Rules for product protection are followed, copy products should be reduced or eliminated.

1. Your product, your revenue: it’s your responsibility to protect it.
2. Each product has unique risks across time, revenue values and geography; plan for them.
3. Conduct risk- and value-analysis and protect products accordingly.
4. Aggressively defend, manage, and control your supply chain and distribution network.
5. Enlist customers, distributors, and the public to report suspicious products.
7. Control access to products through sales agreements, contracts, and intellectual-property use terms and conditions.
8. When in doubt about what to do, see rule 1.

A product-risk map, dashboard metrics, and process controls are essential for executives to manage revenue, lower product risk, and hold managers accountable for their product stewardship. Building protection into products using a risk-based process should be a part of every executive-evaluation system. If it is not viewed as critical to success, it will not happen. A well-managed, risk-based product protection process will increase revenue, lower risk, and increase shareholder value.

The Risk to Both Human Health and Brand Integrity Will Continue to Spur Anti-Counterfeit Efforts That Allow Real-Time Authentication of Every Item Sold and Consumed Around the Globe

James Shore
Partner, Sideman and Bancroft

On June 19, 2015, the U.S. Attorney for the Northern District of California announced the indictment of 11 people for conspiracy to traffic in counterfeit goods, conspiracy to commit criminal copyright infringement, and conspiracy to introduce misbranded food into interstate commerce. The indictments stemmed from the illegal distribution into the U.S. market of the counterfeit liquid-dietary supplement 5-Hour ENERGY.

Sadly, this type of news does not come as a surprise to brand-protection professionals. But it does underscore the growing risk of counterfeit and unsafe food, beverage, pharmaceuticals, cosmetics, pesticides and fertilizers, not to mention electrical and fire-related products, throughout the developing world and increasingly here in the United States. The indictment highlights perhaps the most disturbing trend in counterfeiting: the ability of almost anyone anywhere to create a “picture perfect” packaged counterfeit product. The product ingredients themselves oftentimes include the cheapest and most readily available ingredients with absolutely no concern for product safety. As we have seen too many times, this unsafe counterfeit product was launched into the lives and environment of an otherwise unaware populace.

The best way to combat the introduction of unsafe counterfeit products is to maintain 100% control of the supply chain through authentication of each product, from creation to consumption. Authentication throughout the supply chain will not only allow the brand holder to ensure the requisite quality of every single product that is produced, distributed, and sold but will also allow the consumer to have confidence in the substance they are drinking, eating, or otherwise ingesting and any product they are using.
It is important to acknowledge that the goal of safe products and the protection of intellectual property is not new. For instance, the ancient Babylonian Code of Hammurabi stated that the penalty for selling bad or fake wine was drowning. While most countries do not allow the imposition of such punishment today, ever expanding legal and regulatory requirements combined with the evolving counterfeit-threat matrix demand brand holders’ attention. Technology is the answer most brands look toward and governments increasingly require.

Today we have Anti-Counterfeit labels utilizing overt and covert holograms, bar codes, and invisible ink which contain precise manufacturing data accessible through sophisticated data bases. In addition, the development of embedded taggants for manufactured products and inert “DNA” coatings that can be sprayed on freshly harvested produce to track distribution and identify provenance are new and exciting weapons that are being deployed in the Anti-Counterfeit battle. Despite these innovations, Anti-Counterfeit technology is still expanding at a rapid rate. One recent report (Allied Market Research, 2015) estimated that the global Anti-Counterfeit packaging market will grow to $142.7 billion by 2020 from the $57.4 billion spent in 2013 as brand holders continue to strive to simultaneously protect their precious intellectual property and the unwary consumer.

The private sector, brand holder and vendor alike, is working overtime to perfect and integrate anti-counterfeit and authentication applications that already exist and to develop the next generation of solutions. While the private sector will continue to innovate, government will continue to help it focus and accelerate efforts, especially when ensuring consumer safety. An example of this government-driven “motivation” is the U.S. Food and Drug Administration’s recent implementation of rules regarding “Unique Device Identification” to address safety and counterfeit concerns. These require the placement of an individual label containing mandated data on almost every single medical device. The medical community is hurrying to meet the deadlines. We can be certain that every medical-device company will rely on technology to fix the FDA decree and so will every company facing its own counterfeit problem as it looks to 2020 and beyond.


Appendix: Biographies of Contributors

Jay S. Albanese

Jay S. Albanese is a Professor and Criminologist in the Wilder School of Public Affairs at Virginia Commonwealth University (VCU), and served as Chief of the International Center at the National Institute of Justice, the research arm of the U.S. Department of Justice. He is a Past President and Fellow of the Academy of Criminal Justice Sciences and is currently a member of the Executive Board of the American Society of Criminology.

John Anderson

John Anderson is Chairman of the Global Anti-Counterfeiting Group Network (GACG), a project partner with the United Nations Inter Regional Crime and Justice Research Institute (UNICRI), a contract expert for the European Union Observatory on Infringements of IPRs, and a member of Interpol IP Crime Investigators College Advisory Committee. He is also an observer at the WIPO Advisory Committee on Enforcement. He has held several previous positions regarding intellectual-property rights enforcement for the United Nations and European Union and served in the British Diplomatic Service.

Dan Baldwin

Dan Baldwin served for more than 27 years as a Senior Executive with U.S. Customs and Border Protection (CBP), focusing on global trade facilitation, enforcement and supply chain management. He also worked on priority trade issues for the Office of International Trade and served as the executive in charge of supply-chain security programs, including Customs-Trade Partnership Against Terrorism (C-TPAT) and Container Security Initiative (CSI).

Leah Evert-Burks

Recently appointed as an Industry Fellow at the Michigan State University Center for Anti-Counterfeiting and Product Protection, Leah Evert-Burks has served as Director of Brand Protection for Deckers Outdoor Corporation from 2009-2015. In her role at Deckers, she directed all anti-counterfeit programs worldwide for the Deckers' family of brands, along with supporting litigation against patent infringers. She is an active member of the International Anti-Counterfeit Coalition and its Subcommittee on Counterfeit Website Legislation and the Payment Provider Initiative. She also served as the 2014 Co-Chair for the American Apparel and Footwear Association’s Brand Protection Council.

Roger Calantone

Roger Calantone is the Eli Broad Chaired University Professor of Business at The Eli Broad Graduate School of Management at Michigan State University (MSU). He is Director of the Institute for Entrepreneurship and Innovation, and has been recognized as an MSU University Distinguished Professor. Previously, he was Associate Dean of the Ph.D. Program and Research at McGill University, a Visiting Professor at Rutgers University while a Senior Consultant at Bell Labs, Econometrician at the Dick Pope Tourism Research Institute, and Associate Dean of Research and Graduate Studies at the University of Kentucky.
Steven Chermak

Steven Chermak is a Professor in the School of Criminal Justice at Michigan State University and a lead investigator affiliated with the National Consortium for the Study of Terrorism and Responses to Terror (START). Dr. Chermak’s research has focused on criminal and terrorist activities, including use of counterfeit products, policing, including strategies to reduce violence and assessments of organizational change and implementation.

Ron Davis

Ron Davis is the Senior Director of Brand Protection at Qualcomm, having been recruited to establish Qualcomm’s Brand Protection Program in 2005. In addition to managing global BP/IPR investigations, forensic examinations and international BP investigative resources for Qualcomm, Mr. Davis is the only U.S.-based Vice Chairman of the Quality Brands Protection Committee (QBPC), with more than 200 corporate members, in China. He is the advisory board President for Michigan State University’s Center for Anti-counterfeiting and Product Protection, and a long-term member of the Board of Directors for the not-for-profit Identity Theft Resource Center (ITRC).

Mark Elliott

Mark Elliot is Executive Vice President of the U.S. Chamber of Commerce’s Global Intellectual Property Center (GIPC). In this capacity, he provides strategic leadership to GIPC’s comprehensive initiative to protect the intellectual property rights that are vital to creating jobs, growing the economy, and enhancing U.S. competitiveness. Mr. Elliot joined GIPC in 2011 after nearly 10 years at Pfizer Inc., where he developed and implemented public affairs strategies across the developed world as Senior Director for International Public Affairs. Before moving to New York in 2009, he, a native Australian, served on the Pfizer Australia and New Zealand leadership team and led the public affairs team. In this position, he contributed to the Australia-U.S. Free Trade Agreement negotiations and various other national initiatives that impacted Australia’s pharmaceutical industry. Before entering the private sector, Mr. Elliot held a number of policy and media affairs roles within the Australian Federal Government and the New South Wales State Government for nearly ten years, covering the portfolios of justice, police, attorney general, environment and the media office of the prime minister.

Bruce Foucart

Assigned in April 2015, Bruce M. Foucart is the Director of the National Intellectual Property Rights (IPR) Coordination Center, Homeland Security Investigations, Immigration and Customs Enforcement. The IPR Center brings together 23 partner agencies, consisting of 19 key federal agencies and four international partners, in a task-force setting to effectively leverage the resources, expertise, and authorities of each partner agency and private industry to provide a comprehensive response to intellectual property theft. From 2006 to 2015, Mr. Foucart served as the Special Agent in Charge of the Boston Office, Department of Homeland Security, Immigration and Customs Enforcement (ICE), Homeland Security Investigations.

Stanley E. Griffis

Stanley E. Griffis is an Associate Professor in the Department of Supply Chain Management at Michigan State University. He joined Michigan State University after retiring from the US Air Force as a Lt. Colonel, having worked logistics and supply chain management throughout his 20 year career. Stan’s research interests include supply chain networks, the impact of supply chain operations decisions upon
customer outcomes, and supply chain’s resilience to disruptions. He is a member of the Council of Supply Chain Management Professionals Academic Strategy Committee (CSCMP) Board of Directors and Chair of the CSCMP Academic Strategies Committee.

David S. Howard

An Outreach Specialist in the Center for Anti-Counterfeiting and Product Protection at Michigan State University, David Howard recently retired as the Global Director of Product Protection for the Global Brand Protection Group of Johnson & Johnson, where his responsibilities included product and package protection through the use of process and technology advancements for the Medical Devices and Diagnostics, Consumer, OTC, and Pharmaceutical divisions. He spent his career working for various small, medium, and large corporations, including Kliklok Corporation, Omak Industries, and Bristol-Myers Squibb. Mr. Howard was elected Chairman of the International Authentication Association and served on its board. He also served as the President of the A-CAPP Industry Advisory Board from May 2011 until his retirement in October 2013.

Warren MacInnis

Warren MacInnis is the Director of Brand Protection, Global Security & Brand Protection, at Underwriters Laboratories. He joined the company in 2007 after retiring from the Royal Canadian Mounted Police (RCMP) with nearly 22 years of service. He spent the last 10 years of his RCMP career investigating counterfeiting and piracy crimes in the greater Toronto area with the RCMP’s Federal Enforcement Section. As part of his mandate, he currently oversees a number of global anti-counterfeiting and brand protection initiatives such as the International Law Enforcement IP Crime Conference, the UL Brand Protection Conference, the International IP Crime Investigators College, and other enforcement and training programs.

Christian Peugeot

Christian Peugeot has spent his career in his family’s firm, PSA (Peugeot Société Anonyme), the French manufacturer of Peugeot and Citroën vehicles. In 2009, he was asked to lead Brand Strategy for Peugeot and Citroën at PSA. Since 2012, he has been in charge of Public Affairs for the PSA group. He also serves as the President of Union des Fabricants, the French Association Against Counterfeiting, which serves more than 200 companies from all sectors.

Richard S. Post

Richard S. Post’s career in product protection and related issues spans several decades. Currently a consultant with Post & Post, LLC, Dr. Post previously owned Brand Protection Associates, with offices in the United States and Asia, before the firm was sold to Ernst & Young. Prior to this, he was Managing Director of an international consulting firm in Hong Kong, Director of Human Resources and Corporate Security for Primerica (now Citibank), and Director of Security and Political Risk for the BF Goodrich Company. He was also Chairman of Criminal Justice Studies at the University of Wisconsin and served with the U.S. Army and as a career clandestine-services officer with the Central Intelligence Agency.

John Robertson

Supervisory Special Agent John L. Robertson entered the Federal Bureau of Investigation in 1996 after serving for seven years as a highly decorated officer in the United States Navy. In 2009, SSA Robertson was recruited as the first agent investigator in the FBI’s Intellectual Property Rights Unit where he led
investigations targeting the theft of U.S. trade secrets, counterfeit pharmaceuticals and medical devices, threats against the health and safety of U.S. citizens, counterfeit automotive parts, and threats to the U.S. government supply chain. SSA Robertson spent a year at the FBI Academy developing the FBI’s Investigative Technology Training Program. Today SSA Robertson is the primary Program Manager for all domestic and international Criminal Intellectual Property Rights matters for the FBI.

**Sherri L. Schornstein**

Sherri L. Schornstein served for over 25 years as an Assistant U.S. Attorney with the U.S. Attorney’s Office for the District of Columbia, in the Fraud and Public Corruption Section, and as the senior attorney in the Computer Hacking and Intellectual Property Unit. She is the author of *Criminal Enforcement of Intellectual Property Rights: U.S. Perspective* (LexisNexis), she prosecuted the first federal cases against distributors of counterfeit microelectronics, and she organized and led the D.C. Counterfeit Microelectronic Working Group, a public-private partnership. Ms. Schornstein currently works as an attorney in Washington, D.C.

**James Shore**

James Shore is a Partner at the law firm of Sideman & Bancroft in San Francisco and a former prosecutor for over 20 years in Silicon Valley who specializes in the protection of intellectual property rights and the implementation of global brand-protection strategies including channel compliance, the representation of corporate and individual crime victims, and civil litigation. A significant aspect of Mr. Shore’s practice is the representation of corporate-crime victims in the conducting of internal and external investigations, with the goal of referring individuals and entities who have committed crimes against the corporations to law-enforcement agents and prosecutors, and in then seeking restitution recoveries on behalf of his corporate clients. Mr. Shore’s work in this area has focused on crimes involving counterfeiting, major frauds, employee frauds, and computer intrusions involving his clients.

**Jeremy M. Wilson**

Jeremy M. Wilson is a Professor in the School of Criminal Justice at Michigan State University (MSU), where he founded and directs the Center for Anti-Counterfeiting and Product Protection and the Program on Police Consolidation and Shared Services. Prior to joining MSU, Dr. Wilson was a Behavioral Scientist at the RAND Corporation, where he led the development of the Center on Quality Policing and the Police Recruitment and Retention Clearinghouse. He has been a visiting scholar in the Australian Resource Council’s Centre of Excellence in Policing and Security at Griffith University, the Willett Chair in Public Safety in the Center for Public Safety at Northwestern University, and an instructor for numerous law enforcement training programs. Dr. Wilson has collaborated with police agencies, communities, task forces, companies, and governments throughout the United States and the world on many complex public safety problems, and has led more than $10 million of research sponsored by the U.S. Congress, various units of the U.S. Department of Justice (Office of Community Oriented Policing Services, National Institute of Justice, and the Bureau of Justice Assistance), community and institutional foundations, local governments, police departments, professional associations, and corporations. His research and commentary have been featured in Congressional testimony, books, professional journals, trade publications, and various forms of national and international media.