SB412.M.Bloch.FAV.pdf Uploaded by: Bloch, Maxwell Position: FAV

Statement of Support For Senate Bill 412 Consumer Protection - Right to Repair Finance Committee February 1, 2021

I am writing this statement of support for Senate Bill 412 as a consumer of both digital electronic equipment and of independent repair services. Ensuring that independent repair service providers have access to the documentation, parts, tools, and updates required to perform maintenance and repairs is essential for a consumer such as myself having access to a healthy competitive market of duly qualified professionals when I desire the services of an independent repair provider.

Industry groups and large corporations may argue that restricting access to these materials, parts, and documentation is required to ensure the quality of the product. I believe that consumers such as myself are well protected without these limits on repair providers. In 2006 I broke the screen on my smartphone because I had left it in my back pocket when I went to an outdoor "go-kart" track in Baltimore. I was able to get my screen repaired to my level of satisfaction because I could take it to an independent repair provider who was able to apply a replacement part for far less cost than the original manufacturer would have done so for. I am able to perform my own due diligence as a consumer to compare the service offerings of multiple repair providers, including independent and original euipment manufacturers.

Just last week, my wife expressed frustration that the battery on her iPhone SE (the older model) was not holding a charge. Without the consumer protections in this bill, our options for replacing the battery (and not being without a phone for weeks) all include visiting an Apple store in person. With the pandemic and the impacts of COVID-19, the ability to keep our business with local trusted professionals is more important than ever. We will not want to risk going into a store during this time, so are probably going to pay the extra money to buy a new phone, just because the battery is dying in the old one. I wish we didn't have to make a decision like this, just because local repair shops are not given the access to the tools they need to perform repairs of our electronics. Without a doubt, if we were able to take the iPhone to a local store, we would be able to replace the battery more safely, with less expense, and would support and build a relationship with a local small business.

The pandemic has thrust the importance of consumer electronics into sharp focus this last year. More families depend on laptops, cell phones, and data plans, just to get their kids to school and to provide income and support at home. We need Maryland to be a leader in protecting our rights as consumers by ensuring independent repair professionals have access to the tools and documentation needed to even offer these services.

When I was still in high school, I lived on a street in Catonsville, Maryland which was also home to an independent repair provider who specialized in fixing TVs, VCRs, and electronics. The simple existence of this business allowed me to grow my own interest in technology, build a relationship with a local business, and even perform some part time work. This business was trusted by myself and many of my friends and family over the years to repair laptops, remove viruses, and backup personal files safely and reliably. I urge the committee to support this bill and maintain the broad scope to which it applies, and not allow amendments to limit the scope, nor restrict the applicability, nor burden the independent repair provider with any special requirements.

This bill is good for consumer and independent local business. It is about competition, cost, and quality of services. I urge your favorable report for SB 412. Thank you.

Sincerely,

Maxwell Bloch 615 Southmont Road Catonsville, MD 21228 (240)-242-5624 maxwellb@gmail.com

SB412_IndivisibleHoCoMD_FAV_RichardDeutschmann.pdf Uploaded by: Deutschmann, Richard

Position: FAV



SB412 – "Consumer Protection - Right to Repair" Testimony before Senate Finance Committee February 3, 2021 Position: Favorable

Madame Chair, Mr. Vice Chair and members of the committee, my name is Richard Deutschmann, and I represent the 700+ members of Indivisible Howard County. We are providing written testimony today in *support of SB412*, to allow consumers the information needed to facilitate repair and reuse of the growing mountain of digital electronic equipment. Indivisible Howard County is an active member of the Maryland Legislative Coalition (with 30,000+ members).

The Intergovernmental Panel on Climate Change (IPCC) has stated that we have less than 10 years to reduce greenhouse gas (GHG) emissions to avoid the worst effects of climate change. Coincidently we have an e-waste problem that is becoming a global catastrophe for both developing nations and for the planet. The picture at the right is a scene that is playing out around the globe, where "advanced" countries ship their digital waste streams to economically disadvantaged countries, where child laborers and the poor pick through for salvage. This E-



waste contains toxic heavy metals such as zinc, nickel, lead, and chromium. Also, digital electronics such as cellphones are incredibly resource and energy-intensive to manufacture, contributing significantly to global greenhouse gas emissions and the need to extract heavy metals and other materials through mining.

Fortunately, there are solutions that can help alleviate this problem. Through better recycling and repair practices, many of these products can find new life as used products and parts. The growing DIY movement puts people to work repairing and replacing parts that can help an old mobile phone find a new user, or for us to be able to hold on to our laptops and other equipment for longer times. This in turn will provide business opportunities for a new generation of recycling and parts salvaging right here at home, and reduce the amount of E-waste that is landfilled, incinerated or shipped overseas.

SB412 does just that, requiring the necessary information from product manufacturers in order for ordinary people to reuse and recycle a variety of devices. It breaks the cycle of "planned obsolescence", and the heavy toll this has on our environment. All of which will reduce greenhouse gas emissions by reducing the need for raw materials, transportation, shipping and disposal.

This is an urgent moral and environmental issue. Thank you for your consideration of this important legislation.

We respectfully urge a favorable report.

Richard Deutschmann Columbia, MD

SB0412_MD PIRG_FAV_Richard Forno.pdf Uploaded by: Forno, Richard

Position: FAV

Dr. Richard Forno, Senior Lecturer, UMBC, and Dr. Avi Rubin, Professor, Johns Hopkins University

Testimony for SB0412

Senate Finance Committee, Wednesday, Feb. 3, 2021

Consumer Protection - Right to Repair

POSITION: FAVORABLE

Members of the Senate Finance Committee, it is our honor and pleasure to offer some insights into SB0412 regarding a consumer's ability to repair technology products. The comments expressed in this statement reflect our own views and not necessarily those of UMBC or Johns Hopkins University.

We are writing to express enthusiastic support for SB0412, which requires fair access to parts, tools, service information and repair software. This legislation is a common-sense step that among other things, cuts consumer costs and decreases harmful electronic waste. As recognized experts in cybersecurity, we wish to assure you that the provisions of this bill will not put citizens, businesses or public sector organizations at greater risk of cyber attack. If anything, failing to pass it may place them at greater risks, some of which we describe below.

No Cybersecurity Risk In Third-Party Repair

You have been told by manufacturers and industry lobbyists that digital right to repair bills such as the one you are considering creates cybersecurity risks that will lead to hacks, data theft and other undesirable outcomes. In this and other state houses, these industry representatives continue arguing that asking manufacturers to make available to customers the same schematic diagrams and diagnostic tools that they already supply to their authorized repair partners is a security risk that is not worth taking.

We shall be blunt: these claims simply are not true.

How do we know? Let's state the obvious: because we have no digital "right to repair" today. What we do have is an epidemic of cyberattacks and compromises of connected electronic devices and Internet of Things products. Malicious networks composed of hacked home routers, webcams and other devices, can be linked together to form vast, global networks that become platforms to launch a range of malicious activities such as denial of service attacks and stealing confidential personal or business information. And outside of the Internet of Things (IoT) and cybersecurity, devices like mobile phones, computers, televisions, home appliances, and even cars are becoming increasingly more anti-consumer, essentially transformed into proprietary 'black boxes' that *only* the manufacturer can diagnose and fix things in. Sadly, new cyber incidents, vulnerabilities, and exploits in these devices are reported on an almost weekly basis.

In most cases, the manufacturers of these devices have not disclosed technical information or diagnostic codes that allow cyber criminals to cause mischief. No – today's home electronics, from televisions and refrigerators to baby monitors, smart doorbells, speakers, and more come off the assembly line and ship to customers with software vulnerabilities such as a common administrative password that the user is unable to change on their own, or poorly implemented software designs. Meaning, when products get 'hacked' it most likely happened without the attacker having any proprietary knowledge provided by the vendor. Unfortunately, at the moment, without such knowledge, customers, users, operators, and drivers are unable to take steps on their own or work with knowledgeable third parties to protect themselves from such attacks when reported and disclosed.

Creating the Digital 'Company Town'

To us, concerns over 'hacking' and cybersecurity are not the real issue driving industry resistance to the Right to Repair. Rather, many technology vendors want to create the digital equivalent of the antiquated 'company town' concept where they, *and only they*, provide the goods, services, and support for its citizens. In the modern digital world, that socioeconomic model creates a single point of failure and vulnerability for individuals and business alike. Would you want to tell the Maryland family farmers that the *only* way their tractors and farm equipment can be serviced is by a Deere employee and not the experts employed by a local small business garage? We wouldn't. Would you want to tell these same family farmers that their digitally enabled farm equipment cannot be used indefinitely - even with reduced functionality - and *must* be updated or replaced on the manufacturer's timeline and not theirs, thus forcing customers to spend money needlessly? Again, we wouldn't. As we will describe, such hypothetical examples represent an anti-consumer, anti-business, anti-environmental situation that puts vendor profits and consumer lock-in above all else.

Let's put this in a context we all can relate to: In 2020, Covid-19 shut down stores around the country. If you owned a Google Pixel phone and you break the phone's screen or camera, the only way you're able to get the device serviced without voiding the warranty is to send it back to Google or drop it off at a location operated by Google's sole authorized service partner.[1] Customers can't simply bring their phone to a local electronics store to diagnose or fix serious problems themselves or obtain replacement parts without risking voiding their warranty.[2] Making this more problematic is that many modern electronics vendors often intentionally design their products in ways that require proprietary tools and software to access and/or repair - and in some cases, consider any 'non-genuine' replacement parts to be faulty, substandard, or otherwise problematic, even if they're not. Companies across industry sectors, from electronics to farm machinery, take similar anti-consumer, anti-competitive approaches in designing products that lock customers and third-party experts out as well. Moreover, situations like Covid-19 may close vendor stores or authorized repair centers, further leaving customers in a precarious situation if they need immediate assistance with diagnosing or servicing a product. This set-up directly impacts the independence and resiliency of Marylanders by restricting their ability to fix critical products used in their lives and businesses in a timely manner – and potentially at a better price.

Mobile phones are but one example. Think about how difficult it is to repair or service automobiles, televisions, home appliances, farm equipment, and other devices these days without the vendor's direct assistance. Increasingly, these devices and vehicles are *only* serviceable by the vendor or vendor authorized entities, of which there may be few if any, such as a company's own store or dealership. Unfortunately, to use these products, customers often 'agree' to this dependency by accepting the terms of service licensing agreements -- which are lengthy, densely worded documents that few if any actually take the time to read, let alone understand.[3] Forcing such a fragile dependency on customers has *nothing* to do with enhancing cybersecurity but everything to do with reinforcing a vendor's ability to create greater customer lock-in and revenue-generating dependence on them for servicing these devices - while simultaneously limiting a customer's ability to challenge this one-sided situation.

Even worse, consumers are particularly vulnerable when vendors decide to no longer support a given product and force consumers to upgrade. And then *those* upgrades may require other upgrades in their information ecosystem, too. Consider when you upgrade your Microsoft Windows operating system -- oftentimes you must also upgrade most, if not all, of the other software, and even attached items like printers, used on that computer to ensure compatibility. The same can happen with items ranging from IoT devices to automobiles, appliances, or farm equipment, because there are technical dependencies everywhere. Consequently, **consumers become the victims**, trapped in a perpetual cycle that needlessly costs them time, money, productivity, independence – and resiliency.

Of course, industry will argue that the opposite is true: that the security of the software that runs their devices and the integrity of their customers' data is their 'top priority'. Yet based on their actions, there

simply is not any evidence that these industry claims are true. If anything, **industry's opposition to the Right to Repair is a matter of ensuring consumer dependence on them as the sole source of support for those products.**

So what to do? In exploring this issue, we encourage you to listen closely to what cybersecurity experts, academics, independent researchers, end-users, and customers say, rather than just what industry lobbyists claim. Groups like the Electronic Frontier Foundation, SecuRepairs, and the Maryland Public Interest Research Group are three examples of nonprofit organizations offering objective insights and analysis on why the Right to Repair is essential today.

Speaking as cybersecurity practitioners and lifelong 'geeks' we reject the false narrative being pushed by vendors that owners and independent repair entities pose a security risk if granted access to, information about, and the right to repair their products. Vendors claim security is their top concern. *Make them prove it!* For example, SecuRepairs wisely recommends legislators not blindly accept industry claims but challenge them to substantiate their claims over cybersecurity concerns related to the Right to Repair by asking the following questions:

• Ask if they can provide objective evidence to support their claim that repairs conducted by 'authorized' repair professionals are in *any* way superior to repairs conducted by owners and independent third-party repair professionals if given the same tools and knowledge.

• Ask if they can provide objective evidence to support their claim that vendor repair professionals are more trustworthy and/or less likely to misuse customer data than owners or independent repair professionals.

• For technology companies, ask how many open software security vulnerabilities (CVEs) exist for their products and what the average length of time it takes to issue patches for those is. In our view, cybersecurity vulnerabilities that remain open for more than 60-90 days strongly suggests that a vendor apparently is unwilling or unable to address them, preferring to keep their customers at-risk to cybersecurity problems.

• Ask product vendors to confirm that the user data stored on their devices and sent to/from them is secured with strong, unbreakable encryption. By 'user data' we refer to things the average user doesn't have access to, such as diagnostic information, internal configurations, and other generally hidden metadata generated by the product, such as when or how long it was used.

Right To Repair: Pro-Consumer, Pro-Competition, Pro-Environment

The ability of individuals to service, repair and maintain their property is a core right of ownership that has been recognized in U.S. law and common law for centuries -- and onerous terms of service and/or controversial licensing agreements should not preclude that. SB0412 will update those basic individual rights and consumer protections for a digital age as manufacturers seek to turn hundreds of millions of owners into locked-in tenants of their own technology in a new approach to the outdated 'company town' concept. In this time of increasing wealth inequality and concentrations of market power by large technology firms, a digital right to repair ensures that the promises, potentials, and capabilities of modern technology products are distributed <u>equally</u> to consumers, communities and small businesses alike.

A digital right to repair is a vital pro-consumer, pro-small business policy tool that will extend the life of electronic devices, ensure their safety, security and integrity. Enhanced product knowledge and localized ability to service and repair digital devices in timely manners will make homes, businesses, schools, cities and towns across Maryland less vulnerable to the effects of cyber attacks and other types of malicious behavior. Moreover, endorsing the Right to Repair will reduce the potential for needless electronic waste ("e-waste") and unnecessary technology upgrades, thus providing tangible environmental and economic benefits to the State, businesses, and individual consumers as well.

For years, Maryland has been an informed leader in how it's approached technology matters, especially when it comes to cybersecurity. The digital right to repair law you are considering today is a rare

opportunity. The proposed legislation is simultaneously pro-competition, pro-consumer, pro-environment, and helps ensure that Marylanders can remain resilient and competitive in the networked society and business landscapes of the future. We urge you to continue thinking innovatively about technology and pass SB0412 during this legislative session.

[1] https://support.google.com/store/answer/7182296

[2] https://support.google.com/store/answer/7169154

[3] https://www.nytimes.com/2021/01/23/opinion/sunday/online-terms-of-service.html

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Witness Bio:

Dr. Richard Forno is a Senior Lecturer in the UMBC Department of Computer Science and Electrical Engineering, where he directs the UMBC Graduate Cybersecurity Program and serves as the Assistant Director of UMBC's Center for Cybersecurity. His twenty-five year career includes helping build a formal cybersecurity program for the United States House of Representatives, serving as the first Chief Security Officer at Network Solutions (then, the global center of the internet Domain Name System) and consulting for the Department of Defense and Fortune 500 companies. He has worked with all levels of management on technical and non-technical projects pertaining to cybersecurity, incident response, cyber defense, information operations, and critical infrastructure protection. Richard is an affiliate of the Stanford Center for Internet and Society (CIS) and from 2005-12 was a Visiting Scientist at the Software Engineering Institute at Carnegie Mellon University, serving as an instructor for the CERT Coordination Center (CERT/CC). He is co-author of the forthcoming book "Cybersecurity for Local Governments." (Wiley)

Contact: E-mail: rforno@umbc.edu

Dr. Aviel (Avi) D. Rubin is Professor of Computer Science and Technical Director of the Information Security Institute at Johns Hopkins University. He is also the Director of the JHU Health and Medical Security Lab. Prior to joining Hopkins, Rubin was a research scientist at AT&T Labs. He is also the founder of Harbor Labs, a CyberSecurity company. Rubin testified about information security before the U.S. House and Senate on multiple occasions, and he is the author of several books about computer security. Rubin is a frequent keynote speaker at industry and academic conferences, and he delivered a widely viewed TED talk in 2011 and another TED talk in September, 2015. He also testified in federal court as an expert witness on numerous occasions in matters relating to high tech litigation. Rubin served as Associate Editor of IEEE Transactions on Information Forensics and Security, Associate Editor of Communications of the ACM (CACM), and an Advisory Board member of Springer's Information Security and Cryptography Book Series. In 2010-2011 Rubin was a Fulbright Scholar at Tel Aviv University. In January, 2004 Baltimore Magazine named Rubin a Baltimorean of the Year for his work in safeguarding the integrity of our election process, and he is also the recipient of the 2004 Electronic Frontiers Foundation Pioneer Award. Rubin has a B.S, ('89), M.S.E ('91), and Ph.D. ('94) from the University of Michigan.

Contact: E-mail: rubin@jhu.edu

2021 MD Senate SB0412.pdf Uploaded by: Gordon-Byrne, Gay Position: FAV

O) repair.org

February 1, 2021

Letter of Testimony for SB412

What is the Problem solved by the Fair Repair Act?

Over the past 10-15 years, manufacturers around the world have taken advantage of consumers in increasingly bold ways to monopolize repair as a business model. What began as a benign and simple use of the internet to host repair documentation for easy download turned into a login requirement, then a pay-wall, then a way to block all competition.

We are now at the point where monopolized repair is "normal" despite being illegal under antitrust law for over 100 years. Manufacturers do not have the right to demand they alone repair their products -- and yet consumers believe that to be true. The point of antitrust law is known as an illegal tying agreement where the buyer is forced to buy an additional product or service, such as repair or a software license, in order to use the first purchase.

The US DOJ and FTC are setup to litigate against one manufacturer at a time. With thousands of products in the market which are all repair-monopolized we are advised by these agencies that the solution is legislative. State law has proven effective in restoring competition to the marketplace of automotive repair, and SB412 merely extends the scope of repairable products beyond the computers within automobiles to computers that are embedded in other shapes and sizes.

The bill treats all modern products with embedded electronics the same way because they are repaired the same way. Repair is very simple. Something doesn't work -- the technician runs manufacturer-created diagnostics to identify the problem. A part is ordered. The part is pulled out and a spare part installed. The technician re-runs the diagnostics to confirm the repair is complete. Without access to the diagnostics, parts, tools, service documentation and firmware, that is made by manufacturers to facilitate repair, repair is easily monopolized.

Repair is also specifically legal under current copyright and patent law. Trade secrets are not useful for repair and are disclaimed. Repair techs are not given cyber security back door tools by OEMs because such tools would be giant security risks. Personal injury law is not changed by Right to Repair -- and common contracts already include disclaimers and limitations of liability that protect OEMs up to the limit of state law, which is not changed by Right to Repair.

Consumers should have a consistent set of rules that they can trust when they spend money to buy a product. Consumers will not be well served if the rules for repair of a coffee machine are different from purchases of laptops, tractors or widgets. We do not see a logical reason to allow anti-consumer monopolies to persist based on a specific brand. Consumers are handed contracts they cannot understand and cannot negotiate which undermine important legal rights of owners to control their property. Manufacturers variously claim proprietary rights as a reason to monopolize repair, but under current Copyright, Patent and Trade Secret law repair is specifically legal.

Legislation is now necessary to restore our existing legal rights to repair. The nature of ownership is being thrown overboard by a wide variety of manufacturers in many industries in order to sell more stuff more often. Manufacturers are selling equipment and then preventing the buyer from using it as they see fit. That arrangement is normally called a rental -- not a sale.

The problem is not a technology problem but a business model problem. Manufacturers are using the presence of a computer chip to control repair for their purposes -- and not to support the customer.

The three advantages of monopolized repair are:

- a) Charge excessively for repair services and parts.
- b) Limit the useful life of products so as to sell replacements more frequently.
- c) Block the used market from selling in competition to new.

Monopolized repair is bad for consumers, bad for innovation, and bad for our resiliency in the face of the pandemic. Without repair, we're not able to educate our children, care for the ill, or even keep our appliances running. We can now estimate that 90% of all new products are repair-monopolized due to either design or policy. There are no longer any product options that do not trap consumers, business, industry, agriculture, or government into replacement cycles they cannot control.

Why is repair central to reuse and extended useful life?

Without the option of repair, equipment owners are prevented from continuing to use their equipment from the moment of the first glitch. Problems cascade into many areas not associated with repair directly.

For example:

- Retailers need to be able to recover value from returned products -- which often requires repair or the ability to thoroughly test equipment condition before being resold.
- Lenders and Lessors expect to be able to recover some of their risk in event of default through resale. But if equipment cannot be repaired or resold due to manufacturer limitations -- collateral value is lost.
- Insurance companies offering repair contracts also need to be able to control the costs of repair or the policies will have to be higher priced.

- In-warranty repairs are not free -- the OEM is paying someone to perform the service. Larger OEMS often outsource repairs overseas where labor costs are lower literally taking away domestic employment.
- Products that are made poorly (as in planned obsolesce) can be kept in service only with availability of repair.
- Recyclers can offset processing costs when there is a market for harvested parts. Otherwise recycling is a taxpayer burden that continues to grow with each new product.

Requirements in some end user license agreements ("EULA") require the owner to get permission to resell the equipment which destroys the advantages of ownership instead of rental.

Manufacturers continue to innovate negatively against the option of owner controlled repair such as by making excessive use of adhesives instead of mechanical fasteners, or adding passwords or even cryptographic locks to prevent parts replacement by any party other than the OEM. Firmware updates are being used to remove functions or block repair. The overall situation is bad and getting worse by the day.

About the Repair Association:

The Digital Right to Repair Coalition - d/b/a Repair.org was founded in July of 2013 by multiple trade associations with the specific purpose of promoting repair-friendly legislation, regulations and standards. We are 100% member funded, totally virtual, nearly entirely all volunteer and proudly non-partisan.

Please contact our Executive Director, Gay Gordon-Byrne for additional information. <u>ggbyrne@repair.org</u> or <u>info@repair.org</u> or 518-251-2837 (office) or 201-747-4022 (mobile)

MDGA_Senator Hester_FAV_SB412.pdf Uploaded by: Hester, Katie

Position: FAV

KATIE FRY HESTER Legislative District 9 Carroll and Howard Counties

Education, Health, and Environmental Affairs Committee

Chair, Joint Committee on Cybersecurity, Information Technology and Biotechnology



Annapolis Office James Senate Office Building 11 Bladen Street, Room 304 Annapolis, Maryland 21401 410-841-3671 · 301-858-3671 800-492-7122 Ext. 3671 KatieFry.Hester@senate.state.md.us

THE SENATE OF MARYLAND Annapolis, Maryland 21401

February 3rd, 2021

Testimony in Support of SB412 - Consumer Protection - Right to Repair

Chair Kelley, Vice Chair Feldman, members of the Senate Finance Committee:

Thank you for your consideration of SB412. If you've bought a car, smartphone, or almost any other product with electronic components in the recent past, you are probably aware of just how complicated our technology has become. Even simple repairs require specialized diagnostic tools, manuals, replacement parts and equipment. Increasingly, electronics manufacturers are using this reality of our evolving technology to block access to repair, making it difficult or impossible for consumers to fix their own products, and allowing the manufacturer to maintain a de facto monopoly on repairs. When only the manufacturer or their "authorized technician" can fix a product, they can charge whatever they want or push you into buying a new device. These practices result in increased environmental waste and a less competitive repair market place.

This bill addresses those problems by requiring original equipment manufacturers to provide independent repair providers with documentation, tools, or other information necessary to repair a product at a fair price. This would increase the longevity of equipment that all of us use, and prevent equipment manufacturers from shutting repair providers out of the marketplace. This legislation is modeled after a Massachusetts law passed by ballot initiative in 2012 to require that vehicle owners and independent repair facilities have access to adequate vehicle diagnostic and repair information. After that law went into effect, car manufacturers and independent repair shops voluntarily entered a national agreement in line with the Massachusetts law. Essentially, this means this policy has been in effect in Maryland since 2014 for the auto industry to the benefit of Maryland consumers and businesses. This bill intends to apply that same model to consumer electronics and equipment, extending the right to repair to a broader range of products. I will note that some members of the industry are voluntarily moving in this direction, but others are lagging behind. This legislation keeps industry moving at a steady pace towards these goals for the benefit of all our constituents.

As you will see in the accompanying testimony, this legislation touches a wide array of products, consumers, and marketplaces. Just this past year, <u>reporting in Business Insider</u> demonstrated how the allowance of manufacturer repair monopolies frustrated hospital staff, drove up the cost of healthcare equipment maintenance, and have slowed the repair of ventilators during the COVID-19 pandemic. Included in the committee's testimony are examples from independent technicians who have struggled to get the resources necessary to repair everyday consumer electronic devices, and farmers who have been unable to repair their agricultural equipment because of a lack of willingness on the part of manufacturers to share those tools. You will also see in testimony submitted by the Office of the Attorney General Consumer Protection Division that the oppositions' objections on the grounds that this bill would cause harm to intellectual property rights of manufacturers, warranty agreements, consumer privacy, and overall security are "without foundation." By passing this legislation, we can make the consumption of manufactured goods more sustainable, the ability to repair more accessible, and the repair market as a whole more competitive. On behalf of Maryland's consumers and citizens, **I respectfully urge a favorable report for SB412.**

Sincerely,

Kaui Fr Hest

Senator Katie Fry Hester Carroll and Howard Counties

RTR Maryland Senate 2021.pdf Uploaded by: Jones, Jessa Position: FAV

Maryland Senate Senate Finance Committee Bill #: SB412, Consumer Protection--Right to Repair January 27, 2021 **SUPPORT**

Dear Chair and Members of the Committee,

I am writing in SUPPORT of HB412, Consumer Protection---Right to Repairt, which would require an original equipment manufacturer to make available, on fair and reasonable terms, certain materials or updates to an independent repair provider or owner of digital electronic equipment that are critical to repair.

My name is Jessa Jones, and I grew up on the Eastern shore of Maryland. I graduated from College Park and went on to complete my PhD at Johns Hopkins School of Medicine in Baltimore. My extended family has lived for the last 300 years. The state of Maryland will always be "home" to me.

I now live near Rochester, NY and I run a local independent repair business that employs a team of six former stay-at-home moms and dads. My team has trained over 500 students from all over the world how to troubleshoot and fix iPhone logic board problems. We have assisted the US Department of Justice, US Department of Defense, and many local law enforcement agencies in the US and abroad to bring phones crucial to law enforcement investigations back to life since the OEMs refused to help. (Examples here.) In addition we do routine iPhone, iPad and MacBook repair within our local community.

I am an Apple certified iOS technician, because I passed a simple online test that did not require me to even touch an iPhone. As such, I am qualified to work at an Apple Authorized Service Provider. However, I choose not to become Apple Authorized---and thank goodness! If I were, then I wouldNOT be permitted to do 90% of the repairs that we routinely perform at my shop. I would be forced to tell consumers that problems I know are repairable, are not. If I told my customers the truth about their repairable phone problems, I would lose my Apple Authorization.

The Myth of "Authorized Repair"

I'd like to tell you about the myth of "authorized repair". When we hear this term, it really means "manufacturer-controlled repair" and quite often does not mean "repair" at all. It means Sales. Here's a real life example:

You purchase an iPad mini 3 from Best Buy. Cost on Jan 25, 2021 at Best Buy is \$399. You do not opt for extra cost of Apple insurance. Just out of the one year limited warranty, you crack the screen on your iPad.

If you'd like to repair it by having the broken screen replaced on your iPad by an Apple authorized repair, you are out of luck. The manufacturer controlled "repair" consists only of you relinquishing your iPad, including your data, and purchasing someone else's refurbished iPad mini 3.

We can read about what the <u>authorized "repair" process</u> looks like at Apple.com (https://support.apple.com/ipad/repair/service). Apple uses the phrase "How to Get YOUR iPad FIXED" on this page, but that is misleading greenwashing. You will not see your iPad again if you choose to go this route. You will either mail your iPad to Apple in a box, or turn it in at an Apple Authorized Service Provider. They will then send the device to a hub and send you back someone else's blanked iPad. You will have no idea how the other person took care of their iPad mini 3--Did they use original chargers? Has it been dropped many times? Was it bent and then straightened? Who knows, and you will not be getting a warranty extension to cover these risks. These are real risks. Some Apple Store employees report that the refurbished devices they hand to customers are not even working while still in the white box.

The cost for this "repair" for iPad mini 3 is listed on Jan 25, 2021 as \$299, but you had to surrender your broken mini to Apple for that deal. Recall that you bought it new for \$399. To save some trouble, rather than allowing Apple to harvest your repairable iPad mini, you could simply sell your cracked screen mini 3 on eBay--today's going price is \$100. Then just pay full price for a new iPad mini 3 and you will skip the risks inherent in owning someone else's refurbished property.

Today's price for an independent repair to ACTUALLY repair your cracked iPad mini 3 is around \$100.

The elephant in the room is that the traditional concept of repair where YOUR iPad is actually FIXED and returned to you does not exist for "authorized" repair of iPads. It is a machine to facilitate sales of refurbished devices under the guise of repair. We see similar examples of very limited or no repair options at all for all but the most common problems across many manufacturers of mobile devices.

Competition from free-market Independent Repair is essential.

A recent study by Nathan Proctor from the Public Interest Research Group shows that 78% of repairs that Independent Repair providers do are NOT OFFERED by manufacturer-controlled authorized repair centers.

The corporate Apple policy is that they will not refer repairs that they simply don't do to people

like me. Even if that means that someone will lose their precious data trapped on a dead device.

Recently I repaired a MacBook for a local woman. She had her unfinished novel on the MacBook when a glass of water accidentally spilled onto it.

Apple refused to repair the MacBook to save her data--even though they could have simply taken out the drive and handed it to her, or read the drive in another machine---all very straightforward solutions to her problem.

Her only option to get her data back was independent repair. We can help her today, but only with heavy reliance on parts, tools and information of unknown origin or quality. Our ability to help her in the future is threatened by the increasing prevalence of software locks pairing parts so that they can not be replaced at all.

The OEM monopolies are increasingly using software locks to prevent repair for things we have always repaired.

We have already lost the ability to replace some parts that were once replaceable, and this list grows with every generation of new devices.

I can not replace your new home button on an iPhone 7, but I could on all earlier iPhones. Today, only Apple can pair a new one. They do not offer home button replacement.

A single drop of water can kill your flood illuminator on iPhone X, which will make your phone stop working. I can make it turn on again. But, I can't bring back your FaceID function.

Although I can replace the damaged part, the original part is software locked to the device and only Apple or "authorized repair" can instruct the device to recognize the new part. They do not offer this repair. They will not even make your device turn on again so you can back it up. They will force you to buy an entire new screen for your iPhone X for \$279, or an entire new device if they see that the drop triggered a water indicator. That will be \$549. (see Apple service policies online https://support.apple.com/iphone/repair/service#otherrepairs)

When I change your battery on your iPhone XS, you will lose function. That was never the case before iPhone XS.

Your phone will light the check engine light "Battery Service" and refuse to show your battery health information, *even if* I use an OEM battery from another iPhone. What if I take that same new battery and swap it into an earlier model iPhone X? It will work flawlessly. The iPhone X was not engineered to require a serial number match from the battery that can only be

programmed by Apple. The iPhone XS AND ALL iPhones since then have this new anti-repair restriction.

Today, we can't change your iPhone screen without losing TruTone function unless we use a fancy programmer from China to copy the serial number to the new screen. Apple has added this new software pairing last year, before it never existed for the last 10 years of independent repair screen replacement.

We think that support of the right to repair is important, because we simply believe in protecting the ability of shops like me to do what we've already been doing. Stand up against the monopolization of repair by the manufacturers, a part is a part. Say no to software locks on parts. We don't want to see a world where you can't change the batteries in your own remote control because they have a serial number paired to the TV.

Thank you for your favorable support of this bill, and please reach out to me with any further questions.

Jessa Jones, PhD Born and Bred on Maryland's Eastern Shore! jessa@ipadrehab.com

SB0412 Favorable.pdf Uploaded by: Kunze, Jennifer Position: FAV

SB0412: Consumer Protection: Right to Repair

Senate Finance Committee

Wednesday, February 3, 2021

Position: FAVORABLE

Our 22 groups represent thousands of Marylanders who are concerned about the impact that a throw away society has on our environment. Right to repair gives Marylanders the right and option to repair their belongings in order to extend its use, reducing the waste that is landfilled or burned, or generated from buying new. Right to repair enables consumers to practice the principles of reduce, reuse and recycle. We urge you to support this legislation.

REDUCE

Electronic-waste (e-waste) is the fastest growing waste stream in the world, and contributes large amounts of toxic waste into our waste stream including lead, mercury, and cadmium. Marylanders dispose of an estimated 7,000 cell phones each day¹ which contributes to the 195,000 tons of electronic waste Maryland families produce yearly.

In addition to that staggering level of waste, the production and transport of electronic devices also requires the use of water and materials and produces massive global warming emissions

Electronics are incredibly resource intensive to produce. According to a Maryland PIRG Foundation report, The Fix is In:²

- Manufacturing a single phone produces the planet-warming equivalent of 122.7 pounds of carbon dioxide.
- One iPhone 6 takes 295 lbs of raw mineral 75 lbs of ore and 220 lbs water to produce.
- Given that Americans purchase some 161 million new smartphones each year, that means our cell phone habit takes some 23.7 million tons of raw material to satisfy that's like consuming an Empire State Building equivalent in material every 6 days.

Access to the tools and information to repair our goods is critically needed so we can reduce the number of new products manufactured and bought.

Disposal of this excess of products is a risk to our environment and health. Many electronics contain toxic chemicals and heavy metals that can leach into soil and water. If placed in incinerators, anything with a battery has the potential to explode which could injure workers and cause damage to costly equipment.

REUSE

By extending the life of electronic devices like cell phones, appliances, and other tech, we will dramatically reduce the volume of new devices needing to be manufactured and sold, and open up opportunities for people to hold on to their products longer or pass them on to others to use. We will

2 <u>https://marylandpirg.org/reports/mdp/fix</u>

^{1 &}lt;u>https://masspirg.org/news/map/after-apple-slows-phones-interest-repair-spikes-massachusetts</u>

also generate local economic benefits by reducing the waste we need to manage and opening up repair economies.

If Marylanders held on to our phones 1 year longer on average, it would reduce climate pollution equivalent to taking 11,600 cars off the road, and cut 775k lbs of raw mineral use per day.

Cell phones also require 16 of the 17 rare earth metals to produce. Rare earth metal mining is an ecological nightmare. It causes soil erosion, pollution, acidification and can hinder agricultural output.³ The bulk of rare earth metals are mined in China so there's also a massive carbon footprint associated with extraction and shipment. We should be actively trying to limit this extraction and we certainly can't do that by forcing people to continually buy new products

RECYCLE:

Under our current system, most electronic devices are highly valuable if they work, but utterly invaluable as recycled material, especially with the collapse of many commodity markets for recycled materials. So many technically "recyclable" goods are landfilled or incinerated because it is no longer cost efficient to recycle them.

But under Right to Repair, electronic devices can have a new life. If someone wants to upgrade their phone, washing machine, or speakers their old one will hold more value, and if it's really not working, the parts will be more useful in another machine.

Greater access to repair will create new markets for parts which can in turn result in higher values for recyclers and reusers to harvest useful parts from older machines. In addition, the same information necessary for repair will aid recyclers in locating and safely removing dangerous parts such as batteries for safer processing.

WHAT YOU CAN DO:

Right to Repair is a huge win for our environment and it offers economic benefits. The Institute of Scrap Recycling's Right to Reuse policy⁴ says it best: "Reuse provides an excellent environmental and economic benefit. Despite these benefits, product manufacturers limit the ability of recyclers to legitimately reuse products; for example, by limiting parts and parts information, manuals and utilizing digital locks that impede a product's reuse. These practices inhibit every recyclers' right to return products and goods back into the marketplace for legitimate reuse. Consumers should have access to cost-effective alternatives to new products and replacement parts."

The best way to fight electronic waste is to interrupt market pressures to replace products with widespread and reasonable opportunities to repair and reuse. Right to Repair puts the option of repair and extended use back in the hands of consumers. This will allow millions of tons of useful products to remain in use instead of filling up landfills, and more impactfully: reduce the burden or source material, manufacturing, and transportation of new devices.

We respectfully request a favorable report.

^{3 &}lt;u>https://e360.yale.edu/features/china-wrestles-with-the-toxic-aftermath-of-rare-earth-mining</u>

^{4 &}lt;u>https://repair.org/the-environment</u>

Sincerely,

Clean Water Action Environment Maryland Echotopia LLC MD Campaign for Environmental Human Rights Safe Skies Maryland Maryland Legislative Coalition WISE MOM's Organic Market **Baltimore Beyond Plastic** Our Revolution Maryland Climate Stewards of Greater Annapolis Sugarloaf Citizens' Association MLC Climate Justice Wing Takoma Park Mobilization Environment Committee Howard County Climate Action Climate Law & Policy Project Cedar Lane Environmental Justice Ministry Indivisible Howard County Environmental Justice Ministry Cedar Lane Unitarian Universalist Church Institute for Local Self-Reliance Sunrise Movement Baltimore **Progressive Maryland**

SB 412 Testimony 2-1-21.pdf Uploaded by: LANDERS, DEAN Position: FAV



LANDERS APPLIANCE, INC.

Main Office: 7032 Golden Ring Road Baltimore, MD 21237 (410) 682-3232 Fax: (410) 682-5952



SALES SERVICE PARTS

"HONEST, REASONABLE & RELIABLE"

2/1/21

To the MD Legislature, Senate Finance Committee

RE: SB412 Consumer Protection – Right to Repair

My name is Dean Landers. I am the president of Landers Appliance, Inc., an appliance service, sales and parts company with 27 employees, serving the greater Baltimore area for the last 37 years.

I am writing in support of SB412, the Right to Repair bill. Over the years our staff have had the privilege of helping many customers (over 350,000) with their appliance needs. The biggest struggle we've had, from the very beginning has been getting technical documents, schematics, service bulletins, and assistance while trying to repair various brands for which we were not "authorized". "Authorized", by most accounts simply means you have signed up as a warranty service provider, agreeing to perform repairs during the manufacturers warranty period for a fixed amount of money. For the privilege of being "authorized", you now have access to the necessary service information, including on-line training videos and a few other product training tools.

Most customers opt to call companies that are independent of the "authorized" status, which means the companies, and hence the customer, are prevented from having access to the appliance's technical information. When I refer to most customers, I mean that if you look at the number of service technicians in the country that work under the non-authorized status and those that work for "authorized" companies, you can see that there are far more non-authorized than "authorized". This creates a tough situation for the customers. They prefer to use the non-authorized companies and their technicians for a multitude of reasons (speed of service, professionalism, repair guarantee, local ownership and management, etc.). As a result, customers are placed at a disadvantage, not being able to use the companies they prefer and those preferred companies not being able to get proper access to the technical information they need to complete the repairs.

The main argument for keeping the non-authorized technicians on the outside looking in involves the reimbursement amounts "authorized" companies agree to accept for doing a repair under the warranty period. These warranty reimbursement rates are far below the fair market value that would typically be charged for a COD repair. The warranty reimbursement rates are below the actual costs of most of the authorized service providers. So, the only incentive or benefit the manufacturers can offer the "authorized" companies for accepting such meager rates is to agree to provide them, and them only with the technical information I've already described.

www.LandersAppliance.com

I strongly encourage the members of the committee to rule in favor of the bill and put the issue before the entire senate.

If any individual senator or aid would like to speak to me about specifics related to this bill or anything I raised in this letter, please don't hesitate to call or email me.

Dean Landers, President

Dean Danduns

DLanders@LandersAppliance.com 410 682-3232 Ext 1101

CR Written Testimony SB 412.pdf Uploaded by: Mahoney, Maureen

Position: FAV



February 3, 2021

Delores G. Kelley, Chair Maryland Senate Finance Committee Miller Senate Office Building 11 Bladen Street Annapolis, Maryland, 21401

Re: SB 412, FAVORABLE

Dear Chair Kelley,

Consumer Reports¹ supports the effort to better ensure that consumers have the choice to fix their own electronic equipment, if they can, or to have it fixed by a repair servicer of their choosing, including servicers independent of the manufacturer. Our organization has long supported this "right to repair," including by developing a model act to help guide state legislators.² And we have also incorporated this principle into the Digital Standard, a set of best practices that we use to evaluate the privacy and security of software, digital platforms and services, and internet-connected products, as well as to help influence the design of these products.³ It is important to safeguard and maintain consumers' ability to repair them, and the right to resell them, even as technology evolves.⁴

Unfortunately, it's often difficult for consumers to make simple repairs on their expensive devices – even simple repairs such as changing a smartphone battery or replacing a

¹ Consumer Reports is an independent, nonprofit member organization that works side by side with consumers for truth, transparency, and fairness in the marketplace. We use our rigorous research, consumer insights, journalism, and policy expertise to inform purchase decisions, improve the products and services that businesses deliver, and drive regulatory and fair competitive practices.

² Right to Repair Model State Law, CONSUMER REPORTS (updated December 2, 2020),

https://advocacy.consumerreports.org/research/right-to-repair-model-state-law/.

³ The Digital Standard, https://www.thedigitalstandard.org/.

⁴ E.g., Comments of Consumers Union to U.S. Copyright Office, Software-Enabled Consumer Products Study (March 18, 2016), http://consumersunion.org/research/comments-to-the-u-s-copyright-office-regarding-software- enabled-consumer-products/.

cracked screen.⁵ Not only are electronics frequently designed in a way to intentionally prevent easy repair, but manufacturers are clamping down on access to the diagnostic information, and repair tools, and replacement parts needed to fix consumer electronic products. Some manufacturers even put digital locks and disabling tripwires on devices to block third-party repair. These tactics force consumers to rely on the manufacturer, or the manufacturer's chosen servicer, to fix these products. The manufacturer is then free to charge whatever it wishes, or even to refuse to repair the product and force the consumer to throw it away and buy a new product.

We applaud you for your leadership in considering this important bill. We look forward to working with you and others to secure an effective right to repair for consumers.

Sincerely,

Maureen Mahoney Policy Analyst George Slover Senior Policy Counsel

cc: Members, Finance Committee

⁵ Bree Fowler, *iPhone Slowing Down? It Might be Time to Replace Your Battery*, CONSUMER REPORTS (Dec. 28, 2017), https://www.consumerreports.org/smartphones/iPhone-slowing-down-it-might-be-time-to-replace-your-battery/; Becky Worley and Sarah Messer, *Cracked iPhone Screen Help Guide: How 5 Repair Options Stack Up*, ABCNews.com (May 1, 2017), http://abcnews.go.com/Business/cracked-iphone-screen-guide-repair-options-stack/story?id=47089610.

SB0412-FIN-FAV.pdf Uploaded by: Mehu, Natasha Position: FAV



Office of Government Relations 88 State Circle Annapolis, Maryland 21401

SB412

February 3, 2021

TO: Members of the Finance Committee

FROM: Natasha Mehu, Director of Government Relations

RE: SENATE 412 – Consumer Protection – Right to Repair

POSITION: SUPPORT

Chair Kelley, Vice Chair Feldman, and Members of the Committee, please be advised that the Baltimore City Administration (BCA) **supports** Senate Bill (SB) 412.

Senate Bill 412 would require an original equipment manufacturer to make available, on certain terms, certain materials or updates to an independent repair provider or owner of digital electronic equipment.

If enacted, this legislation would make it easier and more affordable for individuals to have their digital electronic equipment repaired, rather than purchasing new electronics, thus resulting in a decrease in electronic waste (e-waste), a rapidly growing waste steam. Currently, manufacturers limit the information available on how to repair their products, effectively creating situations in which customers must go to the manufacturer for repairs, since local repair shops do not have access to the manufacturer's repair information. The cost that the manufacturers charge for these repairs is often so high that consumers choose to buy a new product rather than pay for repairs on the old one.

In this age of globalization and heightened technology, new and updated models of computers, smart phones, televisions, tablets, smart watches, home assistant devices, and other electronics are being released at more frequent intervals, sometimes replacing preceding models that were released only months previously. In addition, products are no longer designed to be as durable as they were in the past. As a result of this shortened lifespan of products, consumers are disposing of more electronic waste, or e-waste, than ever before.

> Annapolis – phone: 410.269.0207 • fax: 410.269.6785 Baltimore – phone: 410.396.3497 • fax: 410.396.5136 https://mogr.baltimorecity.gov/

E-waste generation has a growth rate about three times larger than that of conventional solid waste. The United States is the top producer of e-waste in the Americas, with 6.3 metric tons produced in 2016, only 22% of which was collected for recycling. Electronic waste is costly to recycle and, if not managed appropriate, has negative environmental impacts.

The provisions of this legislation would result in less electronic waste by enabling third party repair shops and consumers to have access to non-trade secret repair and diagnosis information. By making it more affordable to repair electronics, customers will find it more cost-effective to pay for the repairs rather than to purchase a new product. Expanding opportunities for repair will be of benefit to consumers who currently face very expensive fees for repairs. It would also support local repair shops, which would have a positive local economic impact. According to one report, 200 repair jobs could be created for every 1,000 tons of used electronics. In addition, it would make it easier for materials to be repaired and resold, which could assist consumers who may not be able to afford the newest model but can afford a refurbished item.

Along with individual consumers, businesses and municipalities could save money by spending less on electronics recycling. Baltimore City has a contract with a private company for e-waste recycling brought by residents to City-run Residential Drop-Off Centers. In calendar year 2020, the Bureau of Solid Waste incurred \$158,000 ewaste collection recycling costs. In addition, over 564,000 lbs. of residential electronics were collected in calendar year 2020.

This legislation would promote the State's goals to reduce waste by promoting reasonably priced repairs rather than disposing of an entire electronic product to purchase a new one. Around 20 other states have introduced similar legislation including Virginia, New York, New Jersey, South Dakota, Illinois, California, Massachusetts, Minnesota, West Virginia, and Washington. Reuse and repair options are very important to reducing the amount of waste created. Concepts of reuse and repairs are featured in Baltimore City's Sustainability Plan and the Department of Public Works "Less Waste, Better Baltimore" plan.

It is for these reasons that the City of Baltimore respectfully requests a **favorable** report on Senate Bill 412.

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Testimony - SecuRepairs - MD State Senate 412.pdf Uploaded by: Roberts, Paul

Position: FAV


Paul Roberts Founder

SecuRepairs

54 Cross Street Belmont, MA 02478 617 817 0198 paul@securepairs.org February 1, 2021

The Honorable Members of the Finance Committee Maryland State Capitol Senate Office Building Annapolis, Maryland 21401

Chair Kelley , Vice Chair Feldman and members of the Finance Committee:

My name is Paul Roberts and I am the founder of SecuRepairs.org and Editor in Chief of The Security Ledger, a cyber security news website. I am speaking here today to express **my support for SB 412** an act concerning consumer protection and right to repair.

My organization, SecuRepairs (<u>securepairs.org</u>) is a not for profit group of more than 200 of the country's top information technology and information security experts. Our members include leading executives, academics, security researchers and information security professionals who support a digital right to repair.

The most important thing I want to do today is make you aware of our group. Our members include leading executives, academics, security researchers and information security professionals who support a digital right to repair. We are free at any time to brief you or your staff on the actual security issues affecting connected devices and how digital right to repair laws like Senate Bill 412 will **increase, not reduce the security of consumer electronics.**

I have provided my contact information on this testimony and would be happy to facilitate meetings with our experts.

No Cyber Risk In Repair

At this hearing and others, you will be told by manufacturers and industry lobbyists that digital right to repair bills such as SB 412 creates cyber security risks that will lead to hacks, data theft and other undesirable outcomes. In this and other state houses, these same industry representatives have said that requiring manufacturers to make schematic diagrams and diagnostic tools that they already supply to their authorized repair partners available to a device's owner is a security risk that is not worth taking.

Let me be blunt: these claims are simply not true.

Internet of Things Insecurity isn't about Repair

How do I know? Let me state the obvious: because in the United States there is *no digital "right to repair*" today. However, *there is* an epidemic of software vulnerabilities, cyber attacks and compromises of connected "smart" electronic devices and Internet of Things products.

In recent years, you have likely encountered countless stories <u>of hacked</u> <u>webcams</u> and <u>home routers</u> - incidents that took place in the U.S. and abroad. In fact, there are so many of these exposed and hacked "smart" devices, that entire malicious networks of them - so-called "botnets" - are used by cyber criminals to carry out denial of service attacks, spread malicious software and send email spam.

These hacked devices and malicious global networks exist not because of the availability of schematics or diagnostic software for repair, but because of the security weaknesses of already manufactured and deployed electronics. The sad truth is that many home electronics, smart home devices, appliances, even machinery roll off the assembly line with exploitable software vulnerabilities. Many more devices are insecure by design or in how they are deployed in homes and businesses. These hundreds of millions of Internet connected devices contain the digital equivalent of unlocked or unlockable doors that malicious actors can step through.

Manufacturers and their lobbyists want you to believe that security is their top priority. But their actions -and the record - say otherwise. Even today, home broadband routers that bring Internet connectivity to your homes and offices might ship with the same default administrator account and password. Further, that password to access the device may be trivial, or entirely absent.

Finally, many of these devices are deployed in an insecure state. Their software contains known and unpatched security holes that can be exploited. Furthermore, the devices lack features to automatically update or notify owners when updates are available.

Un-needed communications ports on these devices are open and "listening" for anyone on the Internet who wishes to connect. Communications to and from these devices are sent "in the clear" letting others snoop on it and steal sensitive information like passwords and account credentials.

Their arguments before you today do not reflect their desire to protect customer data, but instead their desire to snuff out independent competition for aftermarket parts and repair that will impinge on their own service revenue and extend the life of their products, reducing the frequency of profitable device upgrades. The cost to consumers, the economy and our environment for these de-facto monopolies is very high, indeed.

Some questions to ask repair opponents

What can you do? First: listen to what cyber security experts, rather than industry lobbyists say. My group represents 200 of the country's top information security experts. As I said, we are free at any time to brief you or your staff on the actual security issues affecting connected devices and how digital right to repair laws like Bill 412 will increase, not reduce the security of consumer electronics.

Second, I urge you to ask tough questions and push back on the false narrative pushed by industry that owner repairs and independent repair poses a security risk.

- Ask them if they have any empirical evidence to support their assertion that repairs conducted by their authorized repair professionals are in any way superior to repair conducted by owners and independent repair professionals.
- Ask them if they have any empirical evidence that supports their assertion that authorized repair professionals are more trustworthy or less likely to misuse customer data than owners or independent professionals.

There is plenty of circumstantial evidence that their claims about the integrity of their authorized service ecosystem are inflated. For example, in April 2019, Immigrations and Customs Enforcmenent raided a Texas-based Samsung Authorized Service provider, CVE Technology Group and detained more than 280 people suspected of being undocumented immigrants hired as cheap labor to do "authorized repair and refurbishing" of Samsung devices.

Repair: Pro-Consumer, Pro-Competition, Pro-Environment

In a world that is increasingly populated by Internet-connected, software powered objects - the so-called "Internet of Things" - a digital right to repair is a vital tool that will extend the life of electronic devices, ensuring their safety, security and integrity. We all want and benefit from new, connected products. But the price of convenience, connectivity and cool features cannot be monopolies on aftermarket service and repair that deny owners their property rights and impose considerable costs on the consumers, the economy and the environment. SB 412 will make homes, businesses, schools, cities and towns across the state of Maryland more secure and less vulnerable to cyber attacks and other malicious behavior.

The digital right to repair law you are considering today is a rare spectacle. It is simultaneously pro-competition, pro-consumer and pro-environment. I urge each of you to vote to pass this bill out of your Committee and that the full legislature have the opportunity to act on it this year.

Sincerely,

P_R_t

Paul Roberts | paul@securepairs.org

2021 Right to Repair Written Testimony for Louis R Uploaded by: Rossmann, Louis

RIGHT TO REPAIR

WRITTEN TESTIMONY BY LOUIS ROSSMANN OF ROSSMANN REPAIR GROUP INC.

IN SUPPORT OF BILL SB0412

February 1, 2021

Introduction

Years ago, if a consumer had problems with an appliance or electronics, parts and schematics required to fully service the product were easily obtainable. In recent years, it has become increasingly difficult to source components for electronics repair.

Original Equipment Manufacturers (OEMs) have restricted access to the parts and tools required for independent repairs to be performed. Some have clamped down so hard that even authorized repair centers are unable to obtain parts to do their job, having to replace the entire unit rather than replace a charge port.¹ Manufacturer authorized repair centers are often not competitive or viable options by their very design.

This bill seeks to lower barriers to entry for independent repair shops, recognizing that they are a vital part of addressing the demand for quick and cost effective repairs. Independent repair is valued by consumers for its price, accessibility, and transparency. Consumers will have their needs met best by competition among independent firms. In my experience, companies that profit from decreased competition in the repair industry use fear/uncertainty/doubt to scare legislators into sidelining the bill. I have provided all of their arguments below with cited counter-arguments. I believe that all arguments from companies that benefit from having monopolies in the repair industry that lack citations should be treated with reasonable skepticism.

¹ [Louis Rossmann]. (2017, February 22). What does authorized repair do? Let's find out! [Video file]. Retrieved from youtube.com/watch?v=OR5ZUl0Q-NI

Arguments in Favor

~Facts regarding Right to Repair~

Consumers own their electronic devices and should have the right to choose the best repair option for them — Once a device is purchased, the consumer should have full ownership. Manufacturers should not dictate the way in which devices are repaired. However, manufacturers are exerting unfair pressure on independent repair to cease and desist, by denying access to crucial materials such as original components and schematics.² These business practices reduce choice for consumers when their device needs to be repaired. This bill will lower barriers to entry for small independent repair providers, so that they remain a viable option for consumers. If consumers are able to perform essential repairs on their cars (e.g. replacing the brakes or changing the oil), it raises the question of why this should be different for their personal electronics.

Repair is a fast-track to the middle class — In a time of increasing wealth inequality, I can't think of a better industry for people to make their way into the middle class. I employ many people who did horribly in school, who are my best technicians. If you are good at solving puzzles and have a detective's mindset, you can do very well at repair even if you were a terrible student - as I myself was. There is a low barrier to entry to get started - you don't need a 4 year college education or \$50,000 in tools to get into the field. Many people I meet who do well for themselves started doing this on the side after they were done working a minimum wage job at the end of the day and turned it into a \$45,000-\$90,000/year job for themselves.

Repairing devices is a potential learning experience for America's youth — Schools nationwide are investing in STEM curriculum to help students compete in the global marketplace.³ Access to schematics and parts means that students of all ages will be able to safely make repairs and learn new and innovative technologies first-hand. As technology advances, so do the number of devices and appliances that utilize it. We need to prepare our children for this future by giving them the opportunity to understand and repair their devices. This knowledge of and experience with repair will aid them in becoming self-sufficient in the job market

²https://www.techdirt.com/articles/20160703/14212934886/apples-ip-lawyers-may-force-youtub e-macbook-repair-videos-offline-over-schematic.shtml

³ <u>https://www.bls.gov/careeroutlook/2014/spring/art01.pdf</u>

Vendors are abusing customs enforcement to place an unfair burden on unauthorized repair — Vendors, such as Apple, have allegedly directed US Customs and Border Protection to stop aftermarket components, such as screens, from entering the country. While some of these components are counterfeit, many are explicitly branded as non-original. However, Apple and US customs enforcement agents seem to draw no distinction, preventing a wide array of previously viable repairs. After the passage of this legislation, independent repair providers will have open and legal access to necessary parts, eliminating reliance on grey-market providers.

Electronic devices should be repaired to avoid E-waste — Recent trends in sales and maintenance show that vendors prefer to replace rather than repair.⁴ This practice creates expensive and unnecessary waste.⁵ If the manufacturer refuses to repair devices, the consumer should be allowed to contract with independent technicians to perform the repairs. Being forced to write off entire devices, because a relatively inexpensive or easily repaired part failed, is not economically or environmentally viable.

- Producing a computer along with its monitor takes at least 1.5 tons of water, 48 pounds of chemicals, and 530 pounds of fossil fuels.⁶
- The excessive amount of lead in e-waste, if released into the environment, could cause severe damage to human blood and kidneys, as well as central and peripheral nervous systems.⁷

There is demand for independent repair — Manufacturers are pushing consumers to have their devices serviced by a limited set of authorized repair providers. Unfortunately, such repairs often take too long and cost too much, as they often offer repair services that demand entire unit replacements rather than specific component repairs. Customers who are disadvantaged economically, and/or geographically get the short end of the stick having to travel long distances to an authorized repair center, to hear that their only option is a \$1500 repair for their \$2000 device. This dynamic is incentivized by profit and easily perpetuated by restriction of repair materials. Access to service documentation, parts, and diagnostic utilities would allow independent technicians to provide consumers with more options. Even if repairs are made using genuine, used, or 3rd party parts, built-in "digital locks" will detect and disable the machine until authorized technicians "unlock" the device. This intentionally disables certain functions, and in some cases, the entire device.

• The sole purpose of this locking technology is to prevent consumers and third party professional repair companies to repair devices without an authorised representative of the manufacturer being involved or, in the case of some Apple Inc. products, to disable

- ⁵ <u>https://www.epa.gov/sites/production/files/2019-11/documents/2017 facts and figures fact sheet final.pdf</u>
- ⁶ https://collections.unu.edu/eserv/UNU:6341/Global-E-waste Monitor 2017 electronic single pages .pdf

⁴ <u>https://globalewaste.org/wp-content/uploads/2018/10/Global-E-waste-Monitor-2017.pdf</u>

⁷ <u>https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4957139/</u>

devices that have been repaired. This leads to an unfair monopoly, stifles competition and frustrates potentially millions of consumers who may have paid good money for their devices.

- *The Nebraska Farm Bureau*, representing 58,000 families, voted 176 to 1 in favor of similar legislation because farmers have experienced these issues and have missed vital harvests and created costly unnecessary downtime. This "locking" is a new addition to more recent generations of equipment.⁸
- Even the *US Military* has been prevented from repairing their equipment by prohibitive service restrictions causing downtime during training exercises.⁹
- Replacing an iPhone home button has the potential to disable the entire device even when the repair is performed properly¹⁰.

`Rebuttal of Arguments Against

~Dispelling myths surrounding Right to Repair~

"The bill is a solution in search of a problem" — Consumers and business owners are taking time out of their day to speak with their representatives because there is a problem.

Take the example of a Macbook Pro laptop that does not turn on. In the past, if a charging chip died inside a \$3000 Macbook Pro, you could have it fixed, independently of the manufacturer, for anywhere between \$79 to \$450. A technician could spend an hour working on the bad motherboard, find the bad chip amongst the hundreds of components on the board, and replace it. Let's say the charging chip died – a technician could go online, buy an ISL9239 charging chip for \$15, and fix the board for their customer.

Fast forward to today, with the newest Macbook Pro which uses the Intersil ISL9240 charging chip. This chip is not available to anyone outside of the manufacturer. If that \$3000 MacBook Pro's charging chip becomes defective, Apple will offer to fix it for \$1500 by replacing the entire board—this is costly, and also erases all user data. This chip is not available for purchase because Apple has created exclusivity agreements with Intersil so they do not sell this chip to independent repair shops or electronics wholesalers. The only way professional repair companies can get this chip is by buying another item that uses it, such as Apple's "Smart Battery Case" that they sell for \$129. After harvesting the chip from its board, technicians

⁸ <u>https://www.theguardian.com/environment/2017/mar/06/nebraska-farmers-right-to-repair-john-deere-apple</u>
⁹ <u>https://www.nytimes.com/2019/11/20/opinion/military-right-to-repair.html</u>

¹⁰ [Michael Oberdick]. (2017, April 12). Don't reset your device if you broke your home button. [Video file]. Retrieved from https://youtu.be/MaV8Gtpeehk

are left with a battery case containing a worthless lithium ion battery that now needs to be disposed as E-waste.¹¹

This process:

- Is time consuming for the technician, increasing turnaround time and price to the customer.
- Is expensive for the technician as he or she is purchasing an entire device to harvest one chip, rather than buying the one chip they need, increasing turnaround and price to the customer.
- Is incredibly wasteful, as the lithium ion battery as well as the case are now worthless, and need to be disposed of.

Authorized repair services have no competitive pressure that would incentivize them to offer services that consumers need, such as data recovery. It's plausible that manufacturers don't make money on repairs, but they definitely do make money by selling replacement devices. Lobbyists for these companies draw attention to tools already available but they omit the true availability and functionality of such tools.

• Apple's "RepairCal" software is a prime example: The software is used by the manufacturer to calibrate displays and sensors. Although technically available for independent repair, it will not function appropriately outside an authorized repair environment as it needs to contact Apple servers. This means that even if the independently completed repair is flawless, calibration cannot be completed to restore full functionality to the user.

"Unauthorized repair is unsafe" — In short, there is no credible evidence suggesting that independent repair technicians or their customers are in any danger. In a 2019 AutoZone Commercial titled "I did it", a mother and young daughter were able to service the brakes of a motor vehicle.¹² We allow American citizens to service their own brakes without any prior mandatory education, yet lobbyists argue that simple electronics repairs, such as battery replacements, are too dangerous. The decision of whether to allow Americans to repair devices should not be up to the vendors but to the consumers who are ultimately accountable. In regards to off-highway, commercial and industrial equipment, their respective safety and emissions components are protected by OSHA guidelines and EPA regulations to ensure safety for operators, employees and the environment.

¹¹ https://youtu.be/HJ2jyo7pAmE?t=769

¹² <u>https://www.ispot.tv/ad/ok12/autozone-i-did-it</u>

"Independent repair providers are not accountable" — No, they are not accountable under this bill. However, they are completely accountable under existing business licensing rules. If a repair shop were to harm consumer devices, it would receive negative reviews and its license to conduct business would be revoked. Specifically, the Department of Consumer Affairs can revoke a business' license for doing substandard work, and provides consumers with a way to get their money back from unscrupulous dealers. The Department of Consumer Affairs can also remove such dealers from the marketplace by revoking their "*Electronics and Home Appliance Service Dealer*" license. There is absolutely no need for redundant expression of the concept that service providers should be held accountable for their actions. In addition, consumers are fully liable for their choices regarding repairing their own property.

"Unauthorized repair does not have the training to do the job properly" — Here you can find an example of a company listed as authorized on Apple's website for iPhone repair telling a potential customer their charge port and headphone jack are soldered to the board, when they are not.¹³ Here, CBC News showcases an Apple Genius quoting a customer \$1100 to \$1900 to fix a machine by replacing the top case, logic board, and display assembly when all it needed was a \$5 cable replaced (a \$150-\$200 repair at most repair shops), which was fixed in the moment by bending back a bent pin.¹⁴ Authorized repair providers are often held to strict rules by the manufacturer— rules that often prevent them from doing actual repairs, and instead only offer full device swap-outs & replacements. Sadly, ten minutes of research is often all that is needed to be better informed than a manufacturer authorized repair provider.

"Security will be compromised" — Providing the schematic for the arrangement of hardware components does not, in any way, unlock the software of a device. Most parts are already available in some form, such as salvage from old hardware, and independent repair providers already exist without any negative impact on digital security. The only true security issue present is "Security Through Obscurity," a widely debunked practice of relying on attackers not knowing how a product works in an attempt to secure it.¹⁵ This bill will encourage manufacturers to design products that are as close as possible to being truly secure. The assertion that independent repair providers seek to profit from software or video-game piracy is unfounded. Replacing a fan or battery is not the same as breaking a digital lock. Further, the ESA, a lobbying organization for the video game industry has admitted repeatedly that their digital locks are regularly picked—without a repair bill.

"Quality and branding will be compromised" — Independent repair shops are competing with each other and authorized repair. As a result, they have a financial incentive to provide quality

¹³ <u>https://www.youtube.com/watch?v=OR5ZUl0Q-NI&t=146</u>

¹⁴ <u>https://www.youtube.com/watch?v= XneTBhRPYk</u>

¹⁵ https://www.schneier.com/crypto-gram/archives/2002/0515.html#1

and honest services. There is no compelling evidence to suggest that independent repair technicians in general provide lower-quality services or act in any malicious manner. Consumers recognize that it is often the independent repair providers who uphold higher quality standards, especially if they are given access to official schematics and parts.

"Consumers already have many options" — Consumers have the following options, each with its own issues:

- *Repair by original vendor:* Has a financial interest in making repairs inaccessible and unattractive (in terms of time, money, and types of services) to promote the purchase of replacement devices.
- *Authorized repair providers:* Are bound by the conditions of the original vendors, and as a result, are unwilling to provide a wide array of repairs. Some authorized repair providers must maintain a quota of selling a certain amount of new devices to maintain their status, further compromising their willingness to provide simple, affordable repairs.
- *Independent repair providers:* Cannot easily access original schematics and parts without this legislation. In addition, they live in fear of industry actions and litigation.
- *Small independent repair providers:* Cannot access original schematics and parts at all, because they are not established in the market. They are in danger of going out of business or never starting a business.

"Independent repair technicians should seek authorization" — Authorization or certification from either the manufacturer or an organization like CompTIA comes at a cost to the repair technician which is passed along to the consumer. It is up to the technician and their customers to determine if this added cost has any tangible benefit since neither authorization nor certification of electronics repair has any official oversight. More importantly, authorized repair technicians are prevented from completing certain repairs at the discretion of the manufacturer.

"Trade secrets will be compromised" — The information that is needed to repair electronic products is already obtainable by measuring values on a known functional unit. A schematic is simply a standardized format for displaying that information and does not include proprietary software, firmware, or similarly proprietary information. Right to repair groups are only asking for a method to update embedded software/firmware to prevent a company holding back updates only they can perform. They are not asking for copies of proprietary firmware, as has been alleged by opponents of the bill.

"There will be a major burden upon OEMs" — Repair technicians are not asking for repair materials to be made available free of charge. They would prefer to pay a reasonable price and compensate vendors for their efforts in adapting and publishing those materials. However, as vendors allegedly already provide materials to authorized repair, the materials already theoretically exist and can be redistributed.

"Copyrights will be infringed" — As the bill is worded, the materials that manufacturers must provide to independent repair are simply alternate formats of what was already sold to the

customer. This would include schematics which are documentation of the types of components used, information that is already present in the physical products sold to consumers.

- As of 2018, the DMCA has been amended to include protection for repairing devices.¹⁶
- Old appliances such as stereos, televisions, and computers would often come with schematics to aid self-service. As this is no longer the case, legislation is required.
- Atari Games Corp. v. Nintendo of America Inc., 975 F.2d 832 (Fed. Cir. 1992)
 "Atari did not violate Nintendo's copyright by deprocessing computer chips in Atari's rightful possession." These attempts included deciphering by chemically stripping the device, microscopically examining it, and hand copying the binary object code to learn how it operates and were all declared fair use. Atari had to illegally obtain source code to "break the lock" and only on that fact, were found guilty of infringement.¹⁷

"No other states have passed this legislation" — This is not a compelling argument against the legislation. It is merely a reflection of an abundant supply of lobbyists willing to read the fallacious arguments listed above off a script. The Washington State Senate was the first to exercise skepticism of lobbyists' arguments against right-to-repair, and their questions to the lobbyists went largely unanswered. In the near future, one state is sure to be the first to pass the legislation. That state will be the first to see the economic benefits of easy access to repair. Eventually, it could be adopted at the federal level.

¹⁶ <u>https://www.copyright.gov/1201/2018/</u>

¹⁷ https://www.copyright.gov/fair-use/summaries/atari-nintendo-fedcir1992.pdf

SB 412 - CPD - Support Letter 2021.pdf Uploaded by: Sakamoto-Wengel, Steven M.

BRIAN E. FROSH Attorney General

ELIZABETH F. HARRIS Chief Deputy Attorney General

CAROLYN QUATTROCKI Deputy Attorney General

Writer's Direct Email: stevesw@oag.state.md.us



WILLIAM D. GRUHN Chief Consumer Protection Division

> Writer's Direct Fax No. (410) 576-6566

STATE OF MARYLAND OFFICE OF THE ATTORNEY GENERAL CONSUMER PROTECTION DIVISION

Writer's Direct Dial No. (410) 576-6307

February 3, 2021

- To: The Honorable Delores G. Kelley Chair, Finance Committee
- From: Steven M. Sakamoto-Wengel Consumer Protection Counsel for Regulation, Legislation and Policy

Re: <u>Senate Bill 412 – Consumer Protection – Right to Repair (SUPPORT)</u>

The Consumer Protection Division of the Office of the Attorney General submits the following written testimony in support of Senate Bill 412, sponsored by Senator Hester on behalf of the Joint Cybersecurity, Information Technology, and Biotechnology Committee, which would guarantee the Right to Repair electronics at the repair facility of the consumer's choosing.

Senate Bill 412 ensures that Maryland consumers needing repairs to their electronics are not restricted to "authorized" repair facilities but, instead, may obtain repairs from independent repair facilities as well, thereby lowering repair costs for Maryland consumers and providing competition in the marketplace. The bill requires original equipment manufacturers, such as Apple, to make available to independent repair shops and the owners of digital electronic equipment the necessary documentation, parts, tools or updates to information or embedded software so that they are able to perform repairs to the equipment.

Senate Bill 412 requires the manufacturer to make the tools and information necessary for such repairs available on "fair and reasonable" terms. The bill further provides that an original equipment manufacturer is not required to divulge trade secrets. The Division believes that the manufacturers' contentions that introducing competition in electronics repair will harm consumers' privacy and security is without foundation. There is no reason to believe that repairs made by an independent repair facility would put consumers' data at risk any more than repairs at an authorized repair facility. Further, restrictions on the ability to repair electronics results in increased disposal of such items, exacerbating problems of electronic waste in the environment.

The Honorable Delores G. Kelley Senate Bill 412 February 3, 2021 Page Two

The manufacturers' arguments against allowing independent repair shops to repair electronics are similar to those previously made by automobile manufacturers who opposed allowing consumers to have their cars repaired at the repair facility of their choice without voiding the vehicle warranty. After Massachusetts passed an automotive Right to Repair law and soon thereafter, automobile manufacturers agreed to provide the tools and instructions necessary for independent repair shops to repair vehicles, resulting in more repair options and lower repair costs for consumers. There is no reason why electronics should be treated differently.

The opponents of Right to Repair legislation raise concerns about frivolous class action lawsuits. However, individuals bringing private actions under the Consumer Protection Act must show actual damages as a result of a violation. Maryland's Consumer Protection Act provides neither statutory nor punitive damages in a private action. And the law allows for attorneys' fees to be awarded in the event that an action is deemed to be frivolous.

For these reasons, we ask that the Finance Committee return a favorable report on this bill.

cc: The Honorable Katie Hester Members, Finance Committee

SB412_RighttoRepair_MDPIRG_FAV_EmilyScarr-merged.p Uploaded by: Scarr, Emily



SB412: Consumer Protection: Right to Repair Finance Committee February 3, 2021 FAVORABLE

Maryland Public Interest Research Group (Maryland PIRG) is a citizen funded public interest advocacy organization with grassroots members across the state. For forty years we've stood up to powerful interests whenever they threaten our health and safety, our financial security, or our right to fully participate in our democratic society.

We support SB412, Right to Repair, or as we call it, the "Just Let us Fix our Stuff Act." In order to repair an electronic device, whether it be a <u>smart phone</u>, a washing machine, a <u>computer enabled tractor</u>, or a <u>ventilator</u>, repair technicians need some basic things: Spare parts, repair documentation (like schematics and manuals), diagnostic software and any special tools.

But when the companies that make our stuff block access to all of those essential things, repair becomes difficult -- and in many cases *only* the manufacturer or their "authorized" repair technicians can do the repairs.

Manufacturers essentially have a monopoly on repairs. When only the manufacturer or their 'authorized technician' can fix something, they can charge whatever they want or they can say "it can't be fixed" and push you into buying a new device. <u>They do both.</u>

How Right to Repair Policies Work

Right to Repair requires manufacturing companies to make the diagnostic tools, manuals, replacement parts and tools available to the user or a third party <u>available at a fair price</u>. These are the critical things repair shops and consumers need to fix broken things.

The statute is adapted from the "Right To Repair" agreement for cars -- so we know the structure of the law works. The automotive industry agreed to these terms in 2014. There have been no ill-effects from the application of this law, and consumers have the option of taking their car to whichever mechanic they choose.

As the COVID-19 pandemic has laid bare, repair affects many aspects of our lives:

- School districts in Maryland experienced <u>massive laptop shortages</u> as they shifted to e-learning. Repair rights would help close the digital divide, enabling schools to maintain and refurbish equipment, saving taxpayers money and expanding digital access.
- As ventilators and other hospital equipment was pressed into service, health care providers struggled to maintain their devices. <u>Maryland Treasurer Nancy Kopp joined the call pushing</u> reluctant manufacturers to share repair information for ventilators.
- As Marylanders struggle with the financial fallout of the COVID-19 economic crisis, repair rights are estimated to save Marylanders <u>\$735 million per year</u>, leaving more money in consumer pockets, and more money recirculating in the local repair economy instead of going overseas.

Emily Scarr, Maryland PIRG Director <u>emily@marylandpirg.org</u> @<u>emilyscarr</u> Rishi Shah, Maryland PIRG Associate <u>rshah@marylandpirg.org</u> @<u>rishiyshah</u>

Protecting property rights and trade secrets.

This policy does not infringe on copyright, intellectual property, or warranty protection. Repair is already specifically legal under both copyright and patent law. Right to Repair does not, and cannot, alter federal law, and none of the diagnostic tools and data enabled by this law would increase access to proprietary property.

Trade secrets are specifically disclaimed in the statute. Manufacturers don't give access to trade secrets to their own technicians, and we aren't asking them to do so here.

Protecting consumers' warranty.

This bill does not impact warranty. Most electronic repairs covered by this bill aren't under warranty. If they were, they would probably take the equipment back to a manufacturer so they don't have to pay for the repair (that's the whole point of a warranty, after all).

For repairs that aren't covered by warranty, but the product is, federal law already enables consumers to seek 3rd party repair without impacting warranty and this bill does not change that. ALI this bill does is make those repairs more likely to be successful.

Repair ensures safety.

Manufacturers have built their repair tools, parts, and diagnostics to be used by minimally trained technicians in order to control labor costs. These same parts, tools, and diagnostics can be used with equal outcomes by any trained technician. There is no empirical support for the idea that manufacturer repair is safer than any of their competitors. This is true for all devices from medical equipment to tractors.

Repair makes our world more secure.

Cybersecurity experts at Harvard's Berkman Klein Center for Internet & Society have testified that Right to Repair increases cybersecurity, a position echoed by leading industry experts which have formed the group SecuRepairs.

In restricting access to the materials consumers need to fix their devices, manufacturers prevent them from carrying out necessary maintenance. This creates a lapse in security, and an opportunity for malicious actors to attack.

We respectfully request a favorable report.

RIGHT TO REPAIR + SB412 HB84

We need to fix our stuff.

When only the manufacturer or their "authorized technician" can fix something, they can charge whatever they want or they can say "it can't be fixed" and push you into buying a new device.

Manufacturers' repair restrictions affect a wide variety of products from cell phones, computers and appliances to medical devices and hospital equipment, to farm equipment and boats.

Repairing the digital divide

Early in the pandemic, a <u>nationwide laptop</u> <u>shortage</u> left millions of students unprepared for virtual learning. Due to disruptions in the supply chain, school districts in Maryland experienced <u>months-long delays</u> before receiving their laptop orders.

Right to Repair will give schools and other institutions the information they need to maintain equipment, and empower the refurbished computer market, saving taxpayer dollars and improving digital access for Maryland families.



Access to cost-effectiveness devices is a critical part of the digital divide. Right to Repair expands low-cost secondary repair markets.



Repair saves families money

Our research finds that repair can save Maryland <u>\$735 milion per year</u>, leaving more money in consumer pockets.

And with stronger repair rights, this money spent on repair will circulate in the local economy rather than stimulate factory jobs overseas.

Ensuring repair rights also:

- Prevents price-gouging from manufacturers for replacement parts.
- Gives consumers more options, and fosters a more competitive marketplace.

HB84 SB412 Sen. Hester and Del. Feldmark

Requires manufacturers of electronic equipment to provide "fair and reasonable" access to replacement parts, tools, schematics or repair manuals, and diagnostic software

The policy is based on an existing, effective agreement between car manufacturers and independent repair shops.

This policy does not infringe on copyright, intellectual property, or warranty protection.



Rishi Shah Maryland PIRG Associate rhsah@marylandpirg.org

No monopoly on safety

Manufacturers have built their repair tools, parts, and diagnostics to be used by minimally trained technicians in order to control labor costs. These same parts, tools, and diagnostics can be used with equal outcomes by any trained technician.

There is no empirical support for the idea that manufacturer repair is safer than any of their competitors.



A <u>survey of biomeds conducted by the U.S. PIRG Education</u> <u>Fund</u> indicated that 92% of respondents had been denied access to service information for critical equipment.

Supporting our hospitals

Without repair competition, hospitals have been forced into <u>expensive fees and contracts</u> with manufacturers to maintain and service medical equipment, needlessly driving up cost to patients.

During the COVID-19 pandemic, these restrictions hurt hospital's ability to care for patients. Some have not <u>been able to maintain or repair essential</u> <u>equipment, like ventilators</u>.

Supporting cybersecurity

Cybersecurity experts at Harvard's Berkman Klein Center for Internet & Society have testified that Right to Repair reforms increase cybersecurity, a position echoed by leading industry experts which have formed the group SecuRepairs.

In restricting access to the materials consumers need to fix their devices, manufacturers prevent them from carrying out necessary maintenance. This creates a <u>lapse in security</u>, and an opportunity for malicious actors to attack.



Farmers can experience delays in harvesting crops due to software errors that only authorized technicians can fix.

Standing up for farmers

Maryland farmers deserve protection from price gouging and consumer ripoffs. We need our farmers to be resilient and not dependent on manufacturers to ensure their equipment works.

Farm equipment manufacturers use repair restrictions to prevent <u>farmers from making</u> <u>necessary repairs</u>, which increases costs and creates downtime.

Reducing toxic e-waste

E-waste is the <u>fastest growing waste stream</u> in the world, and it adds toxic heavy metals like <u>lead</u>, <u>mercury</u>, <u>and cadmium</u> into our landfills.

Maryland households produce <u>195,000 tons</u> of electronic waste per year. With more repair, these materials will remain in use instead of filling up landfills, be more useful for recyclers, and reduce the burden or new source material, manufacturing, and transportation of new devices. recyclers, and reduce the burden or new source material, manufacturing, and transportation of new devices.



Perzanowski repair letter_MDS-converted.pdf Uploaded by: Shah, Rishi

AARON PERZANOWSKI

11075 EAST BOULEVARD

CLEVELAND, OHIO 44106

SB412 right to repair, finance Finance Committee February 3, 2021 FAVORABLE

February 1, 2021

Dear Chair Kelley and members of the finance committee:

I write today to express my support for SB412. As a legal academic whose research focuses on digital ownership and the intersection of personal and intellectual property rights, I have grown increasingly dismayed about the erosion of the control we have as consumers over the products we buy. The right to repair our devices is crucial, not only to our autonomy as individuals, but to our collective obligations to the planet. This bill would provide the citizens of Washington with tools to regain control over the devices they rely on every day and to stem the environmental harms of a throwaway consumer culture.

Repairing the things we own is just common sense. It saves us money by making the products we buy last longer. It eliminates waste in the form of discarded devices. And it reduces the need to extract raw materials from the earth. But all too often, device makers put their own financial interests first. They choke the supply of replacement parts, tools, software, and diagnostic information necessary for consumers to repair devices themselves or to rely on independent repair providers, who often represent a more affordable and convenient alternative. As a result of these anticompetitive behaviors, independent repair shops are being driven out of business, which only reinforces the dominance of device makers and their authorized repair partners. Faced with monopoly pricing in the repair market, consumers are often persuaded to replace their devices rather than repair them.

As an expert in intellectual property law, I've been frustrated to see IP rights invoked as a defense of the status quo. Nothing in SB412 undermines manufacturers 'legitimate intellectual property interests. Arguments to the contrary are little more than a smokescreen, obscuring an anticompetitive agenda behind appeals to innovation.

As early as 1901, courts have recognized a "right of repair or renewal" under U.S. copyright law. Doan v. American Book Co., 105 F. 772 (7th Cir. 1901). Since then, courts have repeatedly brushed back efforts to use copyright law to control the markets for repair parts and information. *See* Toro Co. v. R & R Prod. Co., 787 F.2d 1208, 1213 (8th Cir. 1986); ATC Distribution Grp., Inc. v. Whatever It Takes Transmissions & Parts, Inc., 402 F.3d 700, 703 (6th Cir. 2005); Southco, Inc. v. Kanebridge Corp., 258 F.3d 148 (3d Cir. 2001). It's not just the courts that have rejected these efforts. In amending § 117 of the Copyright Act, Congress explicitly embraced repair. *See* § 17 U.S.C § 117(c). And more recently, the Copyright Office has recognized that repairing a range of software-enabled devices, from smartphones to tractors, is non-infringing. *See* Exemption to Prohibition on Circumvention of Copyright Protection Systems for Access Control Technologies, 83 Fed. Reg. 208, 54023 (October 26, 2018).

If anything, the rules favoring repair under patent law are even clearer. Under the exhaustion doctrine, when a patentee sells a particular device to a consumer, it loses the right to control the use or subsequent transfer of that device. Exhaustion is why you can sell your used car without the manufacturer's permission. It's also why you can repair it free from any risk of patent liability. So long as you don't "reconstruct" the patent article—that is, rebuild it entirely—there is simply no infringement. *See* Aro Mfg. Co., Inc. v. Convertible Top Co., 365 U.S. 336 (1961).

Nor does access to service information, replacement parts, or tools jeopardize manufacturers 'rights under trade secret law. First, SB412 specifically exempts trade secrets. Section 4(1) of the bill states, "[n]othing in this chapter may be construed to require an original manufacturer to divulge a trade secret." Second, vague and unsupported claims of trade secrecy shouldn't be accepted at face value. It's easy to raise the specter of undisclosed secret information. But in reality, repair information is frequently shared with authorized repair providers, who may or may not be under any legal obligation to maintain its secrecy. In other instances, the information may be generally known or readily ascertainable through other means, further calling into question its protected status. To the extent there are truly valuable secrets at stake, the language in the bill is more than sufficient to preserve their legal protection.

Finally, there is no reason to believe that SB412 exposes manufacturers to any additional risks that their products will be counterfeited or otherwise reproduced. Determined counterfeiters already have access to devices, either on the open market or directly from device makers' own suppliers. The idea that a bill designed to empower consumers and increase competition in the repair market would contribute to the problem of counterfeiting in any material way is implausible, to say the least.

Thank you for your leadership on this critically important issue. I am happy to offer any additional information that you and your colleagues may find useful throughout the legislative process. Please reach out if I can be of any help.

Sincerely,

Aaron Perzanowski Professor of Law Case Western Reserve University

Institutional affiliation included for identification only

SIA MD SB412 Letter of Support.pdf Uploaded by: Shah, Rishi



February 3, 2021

Letter of Support for SB 412 on Right to Repair

The Service Industry Association is the leading trade association representing businesses engaged in the support, maintenance and repair of high-technology equipment for business, industry and government. Our over 400 members collectively employ roughly 300,000 service professionals in North America, Europe and Asia/Pacific.

Nearly every data center or cloud hosting facility in the western world makes use of independent repair services provided by our members either directly or as agents of other repair providers including OEMs. The same OEMs that hire our members to do their skilled work then actively promote that hiring independents will create danger and risk -- when in fact they could not support their own repair contracts without us. We are their arms and legs but are blocked from competition.

SB 412 will restore the option of competition to equipment owners of all kinds - from the individual consumer to the largest cloud hosts. Our members will have to provide excellent service in order to compete in a free market and we welcome the opportunity. We believe that competition makes all businesses sharper, more attentive to their customers, and drives innovation at every level. We urge you to pass this essential legislation on behalf of equipment owners everywhere.

Sincerely,

Claudia J. Betgner

Claudia J Betzner, Executive Director 2164 Historic Decatur Road, Villa Nineteen San Diego, CA 92106 USA

Tradeloop MD SB 412 Letter of Support.pdf Uploaded by: Shah, Rishi



Letter of Support

February 3, 2021

Memorandum of Support for SB 412 on Right to Repair

My name is Rohi Sukhia, I founded Tradeloop in 1997 for wholesale buyers and sellers of used technology equipment. We allow companies to safely buy, sell, repair, and recycle high-technology equipment.

We support roughly 40,000 businesses around the United States, including at least 740 businesses in the state of Maryland. These businesses depend on the demand for high quality and fully functional used equipment. Right to Repair legislation will directly impact their ability to quickly, correctly and efficiently repair this equipment prior to reuse or resale.

For the past decade we've seen reuse in steady decline as broken equipment, under current conditions, is very difficult to repair and carries only a fraction of the value of the fully functional machine.

Passage of any Right to Repair legislation will positively impact all of our trading partners and increase the volume of equipment that can remain in use, greatly reducing the volume of electronics that must be scrapped or recycled.

We urge passage of Right to Repair, SB 412 at the earliest opportunity.

Best Regards,

Rh Sichs

Rohi Sukhia CEO / Founder Tradeloop Corporation www.tradeloop.com

Waveform MD SB 412 Letter of Support.pdf Uploaded by: Shah, Rishi



FEBRUARY 3RD, 2021

Right to Repair Legislation SB 412 Support

Waveform is a leading online seller and installer of wireless equipment, enabling connectivity for consumers and businesses in rural America.

Since the company's founding in 2007, we have helped over 30,000 individuals and businesses improve their signal, including at least 730 customers in the state of Maryland.

None of the equipment manufacturers whose products we resell make available any kind of replacement components, repair manuals, or service guides. The result is that many of our customers are completely unable to repair their equipment when even the simplest component malfunctions or is damaged.

Right to Repair legislation would benefit our customers while reducing the amount of equipment that becomes electronic waste.

We urge immediate passage of Right to Repair, SB 412 at the earliest possible opportunity.

Sincerely,

Sina Khanifar

CEO & Co-Founder <u>Waveform.com</u> sina@waveform.com

iFixit 2021 Letter of Support_MDS.pdf Uploaded by: Sheehan, Kerry Position: FAV

1330 Monterey St. San Luis Obispo, CA 93401 805.464.0573



Header SB412 right to repair, finance Finance Committee February 3, 2021 FAVORABLE

February 1, 2021

Dear Chair Kelley and members of the finance committee:

I am writing to express our support for SB 412, the Right to Repair bill.

iFixit is an international, open-source, online repair guide for everything. Our mission is to provide people with the knowledge they need to make their things work for as long as possible. We represent a global community of makers, tinkerers, fixers, and repair professionals. In 2020, the iFixit community helped almost 1 million Marylanders learn how to fix their stuff. We believe that everyone should have the right to repair, modify, and tinker with the things they own, and to access the repair services of their own choosing.

For our members—and Maryland consumers more generally—the problems of being unable to repair their own products are vast and will continue to grow. Without access to service diagnostics, products will simply stop working as cloud services change or shut down. Without access to repair parts, consumers will have to dispose of and replace perfectly repairable products. It's prohibitive to expect individual owners, repair shops, refurbishers and recyclers to pay each manufacturer for authorized service information. And without that information, repair shops and recyclers won't be able to keep up with the vast diversity of electronics-enabled products on the market.

Our experience helping millions of people to fix things also shows that the best way to ensure safe repairs is to give people the information, parts, and tools they need to repair their devices safely.

Manufacturer-offered repair services have proven inadequate to meet the needs of device owners. When they're available (many manufacturers don't provide any repair services), they often require Marylanders to travel long distances, pay higher prices, wait out delays in shipping and repair, or limit the types of repairs available. The solution is to ensure that owners and independent repair providers have access to the information, parts, and tools needed to keep our devices operational.

The positive impacts of SB 412 will be far-reaching. Electronics manufacturing strains the limits of our natural resources while usable products and device components are thrown into landfills instead of salvaged, fixed, and reused. By supporting SB 412, you would be helping extend

device lifetimes, keeping products operational longer. SB 412 will help close the digital divide in our communities, providing access to expensive technologies to those in need who cannot afford to buy them new, and make sure all our communities have access to the technology needed for education, telemedicine, and all other aspects of our digital lives.

Using, repairing, and modifying modern products requires access to information, replacement parts, and specialized tools including service manuals, error codes, and diagnostic tools. In requiring manufacturers to provide fair access to these, SB 412 will provide much needed support to small and independent repair businesses, who struggle to compete against manufacturer-offered repair services, and support local job creation. A recent Illinois Economic Activity survey found that repairing electronics creates 13 times as many jobs as recycling it. For every 1000 tons of electronics, repair creates 200 jobs—and while manufacturers may outsource many of those jobs or move them abroad, repair jobs are predominantly local.

I'm grateful for your efforts to move SB 412 forward. Please let me know if you have any questions or if there is any additional information I can provide.

Sincerely,

Kerry Maeve Sheehan U.S. Policy Lead, iFixit

SB412 Right to Repair Testimony Southerland SSM 1F Uploaded by: Southerland, Mark


Committee:Senate Finance CommitteeTestimony on:SB412 – Consumer Protection - Right to RepairPosition:FavorableHearing Date:February 3, 2021

Safe Skies Maryland supports the passage of the "Right to Repair" which would have a major impact on reducing waste and its adverse effect on the environment. It is one of the most effective sustainability initiatives Maryland can undertake.

The Intergovernmental Panel on Climate Change (IPCC) has stated that we have less than 10 years to reduce greenhouse gas (GHG) emissions to avoid the worst effects of climate change. Coincidently we have an **e-waste problem that is becoming a global catastrophe** for both developing nations and for the planet. The picture at the right is a scene that is playing out around the globe, where "advanced" countries ship their digital waste streams to economically disadvantaged countries, where child laborers and the poor pick through for salvage. This E-waste contains toxic heavy metals such as zinc, nickel, lead, and chromium. Also, digital electronics such as cellphones are incredibly resource and energy-intensive to manufacture, contributing significantly to global greenhouse gas emissions and the need to extract heavy metals and other materials through mining.

Fortunately, **there are solutions that can help alleviate this problem.** Through better recycling and repair practices, many of these products can find new life as used products and parts. The growing DIY movement puts people to work repairing and replacing parts that can help an old mobile phone find a new user, or for us to be able to hold on to our laptops and other equipment for longer times. This in turn will provide business opportunities for a new generation of recycling and parts salvaging right here at home, and reduce the amount of E-waste that is landfilled, incinerated or shipped overseas.

SB412 does just that, requiring the necessary information from product manufacturers in order for ordinary people to reuse and recycle a variety of devices. It breaks the cycle of "planned obsolescence," and the heavy toll this has on our environment. All of which will reduce greenhouse gas emissions by reducing the need for raw materials, transportation, shipping and disposal.

We are asking for a favorable report on SB412.

Mark Southerland PhD Legislative Director Safe Skies Maryland

SB412_MCRC_FAV.pdf Uploaded by: Stern, Isadora

Position: FAV



Maryland Consumer Rights Coalition

Testimony to the Senate Finance Committee SB 412 - Consumer Protection - Right to Repair Position: Favorable

February 3, 2020

The Honorable Delores Kelley, Chair Senate Finance Committee 3 East, Miller Senate Office Building Annapolis, Maryland 21401 cc: Members, Senate Finance Committee

Honorable Chair Kelley and Members of the Committee:

The Maryland Consumer Rights Coalition (MCRC) is a statewide coalition of individuals and organizations that advances financial justice and economic inclusion for Maryland consumers through research, education, direct service, and advocacy. Our 8,500 supporters include consumer advocates, practitioners, and low-income and working families throughout Maryland.

We are writing today in support of SB 412.

SB 412 will increase competition in the Maryland marketplace by making the critical diagnostic tools, manuals, and replacement parts available to an individual or a third party at a fair price. SB 412 will upend the monopoly that some manufacturers hold on their items and instead, create opportunities for small businesses and individuals to repair these items.

As a result, consumers will no longer have to rely on a manufacturer to fix their items or sell them a newer, more expensive model. Instead, consumers can repair the item or take it to be repaired, saving money and often, time. The right to repair will also protect consumers from the practice of price-gouging by the manufacturer for replacement parts.

For all these reasons, we support SB 412 and ask for a favorable report.

Best,

Marceline White Executive Director Maryland Consumer Rights Coalition

SB412 - Consumer Protection-Right to Repair - FIN Uploaded by: Tulkin, Josh

Position: FAV



Committee: Finance

Testimony on: SB 412 "Consumer Protection – Right to Repair"

Position: Support

Hearing Date: February 3, 2021

The Maryland Chapter of the Sierra Club submits this testimony in support of SB 412, a bill that would require an original manufacturer of digital electronic equipment to make available, on certain terms, certain materials or updates to an independent repair provider or owner. "Right-to-Repair" embraces the concept that products should be designed and built for maximum life rather than planned for obsolescence; durable products that break can easily be repaired because the manufacturers make their service manuals and replacement parts available. We already have right to repair for cars—local car mechanics are given access to all the same software diagnostics and service manuals that the dealerships have.

SB 412 will extend the life of digital electronic equipment, reducing the incoming waste in landfills and incinerators, conserving resources that would have to be spent on replacing broken equipment, reducing costs to consumers, and creating reuse and repair jobs right here in Maryland.

This bill will reduce digital electronic waste. Every year, large numbers of otherwise repairable and usable consumer electronics, such as smart phones, are unnecessarily discarded, with many ending up in landfills or incinerators. The average cellphone is replaced after less than three years.¹ One major reason is that the manufacturer won't allow private repair shops or individuals access to the information needed to make necessary fixes. This repair monopoly results in higher costs to the consumer and frequently means that purchasing a new phone is either a better bargain or the only choice. Imagine if your car, like an Apple iPhone, could only be repaired by the original manufacturer!

It will conserve resources and prevent greenhouse gas emissions associated with mining and manufacturing replacements. Right-to-Repair is not just about reducing waste from discarded electronics. It also reduces the wasteful and environmentally harmful production of mined materials that form the guts of these products. In one study, production of a single iPhone6 was found to have used 295 pounds of raw minerals, 34 kilograms of ore, 100 liters of water, and 20.5 grams of cyanide.² The United States would save 7.8 million tons of raw materials per year if cell phones were used for just one year longer, on average. Mining and

² Brian Merchant, "Everything That's Inside Your iPhone," *Vice*, August 25, 2017.<u>https://www.vice.com/en/article/433wyq/everything-thats-inside-your-iphone</u>

¹Bloomberg Business, "U.S. Smartphone Replacement Lengthens to 33 Months," August 22, 2019.<u>https://www.bloomberg.com/press-releases/2019-08-22/strategy-analytics-us-smartphone-replacement-lengthens-to-33-months-despite-strong-interest-in-5g</u>

Founded in 1892, the Sierra Club is America's oldest and largest grassroots environmental organization. The Maryland Chapter has over 75,000 members and supporters, and the Sierra Club nationwide has over 800,000 members and nearly four million supporters.

manufacturing materials for the newest iPhone represents roughly 83 percent of its contribution to the greenhouse gas emissions in the atmosphere throughout its life cycle, according to Apple's manufacturing data. For a washing machine, it's about 57 percent.³

Finally, SB 412 will help the economy by generating new jobs in independent repair industries, creating competition in repair services that will save money for consumers.

In sum, Right-to-Repair is part of a zero waste, circular-economy approach that reduces waste, preserves valuable natural resources, lessens pollution of air, land, and water, increases consumer choices, and boosts the local economy with new jobs in the independent repair industry. We respectfully request a favorable report.

Amy Maron Chapter Zero Waste Team Amy.Maron@MDSierra.org Josh Tulkin Chapter Director Josh.Tulkin@MDSierra.org

³ Paola Rosa-Aquino, "Fix, or Toss? The 'Right to Repair' Movement Gains Ground," *The New York Times*, October 23, 2020.

Support with amendment for SB412 - Consumer Protec Uploaded by: Ferguson, Colby

Position: FWA



3358 Davidsonville Road • Davidsonville, MD 21035 • (410) 922-3426

February 3, 2021

To: Senate Finance Committee

From: Maryland Farm Bureau, Inc.

Re: Support with Amendment for SB 412 - Consumer Protection - Right to Repair

On behalf of our member families, I submit this support with amendments for SB 412. This bill requires an original equipment manufacturer, on fair and reasonable terms, to make available to an independent repair provider or owner of digital electronic equipment any documentation, parts, tools, or updates to information or embedded software. It also requires, as it applies to equipment that contains a security–related function, any documentation, tools, parts, or updates needed to reset the lock or function when disabled.

Maryland Farm Bureau Policy: We support legislation requiring agricultural equipment manufacturers to make available the necessary documents, software and information to allow independent shops and individuals to repair equipment.

After working with farm equipment manufacturers in 2020, they rolled out a program to offer a Right-to-Repair program that includes documents, software and information for equipment owners and independent shops. On December 1, 2020 we hosted a virtual event to highlight the new Right-to-repair programs.

Unfortunately, this rollout didn't go far enough. The core issue that is still needed to fully repair your own equipment is the "parts pairing" issue. Without the ability to activate a spare part the entire point of Right to Repair is lost and the option of any independent repair is gone. We fully understand the concerns of the equipment dealers of equipment owners tampering with federally regulated emissions as well as proprietary embedded software or code. Therefore, we are offering the following amendment to address these industry concerns, but still supporting the equipment owner's Right-to-repair.

For safety, durability, environmental, and liability reasons, diagnostic and repair information and tools does not include the ability to:

(a) Reset an immobilizer system or security-related electronic modules unless necessary for repair;

(b) Reprogram any electronic processing units or engine control units unless necessary for repair;

(c) Change any equipment or engine settings negatively affecting emissions or safety compliance; or

(d) Download or access the source code of any proprietary embedded software or code;

MARYLAND FARM BUREAU SUPPORTS SB 412 WITH AMENDMENT

a Coly Z

Colby Ferguson Director of Government Relations For more information contact Colby Ferguson at (240) 578-0396

SB 412 FIN 02-03-2021 FWA _MTAM.pdf Uploaded by: Zellers, Susan

Position: FWA



3 February 2021

The Honorable Delores G. Kelley, Chair Senate Finance Committee 3 East Miller Senate Building Annapolis, MD 21401

Re: SB 412 - Consumer Protection – Right to Repair – Support with Amendments

Dear Chair Kelley:

Thank you for the opportunity to comment on HB 84. On behalf of the Marine Trades Association of Maryland, representing nearly 350 marine businesses in Maryland, we ask that you support HB 84 with amendments.

As an industry, we are always striving to give the consumer a better experience by having certified technicians work on marine engines and to keep the boater out on the water with less down time when their boat is in the shop. This is why the recreational boating dealerships and manufacturers have together invested millions of dollars in educating, training and certifying technicians. What was once repaired with a screwdriver and some 'know-how' has been replaced with highly specialized technical skills and computer software. If a technician is not up to date with manufacturer repair and service practices, they could unwittingly be putting the user and their families at risk when they are out on the water.

We do not oppose a consumer's right to repair, and in fact see many of our members working with their customers to sell the required parts and train them to do simple repairs themselves. However, granting consumers access to software and features incorporated into marine engines and electronics would make them no longer compliant with federal emissions and safety requirements. There is a reason that these "Right to Repair" bills across the country exempt automobiles – because it was recognized how dangerous it would be to tamper with the 'chip' that controls steering or fuse load.

As drafted, this 'Right to Repair' legislation would apply to all off-highway engines and have serious effects on the wellbeing of the recreational boating businesses and customers. We understand that the origination of these "Right to Repair" bills was to allow for access to cell phone repairs and as such, we understand the value. However, granting untrained consumers access to the schematics for boats could result in unsafe boating and improper emissions. Therefore, we cannot support this bill as written.

We respectfully offer the following amendments to the bill as drafted:

(B) THIS SUBTITLE DOES NOT APPLY TO:

(7) MARINE ENGINE MANUFACTURERS, MARINE PRODUCT MANUFACTURERS, OR ANY PRODUCT OR SERVICE OF A MARINE ENGINE OR MARINE PRODUCT MANUFACTURER;

(8) ENGINES USED IN MARINE APPLICATIONS, INCLUDING FOR PROPULSION AND POWER GENERATION, OR ANY PRODUCTS DESIGNED TO OPERATE ON WATERWAYS AND USING MARINE ENGINES; OR

(9) DEALERS WHO SELL, DISTRIBUTE, REPAIR, MAINTAIN OR SERVICE MARINE ENGINES OR PRODUCTS, OR ANY PRODUCT OR SERVICE PROVIDED BY SUCH DEALERS.

The Marine Trades Association of Maryland is a 501(c)(6) organization representing the boating trades and the recreational boaters in Maryland. This industry is a \$3.5 billion industry in Maryland and supports nearly 18,000 jobs.

I appreciate your time and consideration.

Sincerely,

1

Susan Zellers Executive Director

cc: Members, Senate Finance Committee

Maryland SB412- Expression of Concern FINAL.pdf Uploaded by: Bhatt, Manthan

Position: UNF

701 Pennsylvania Avenue, Ste. 800 Washington, DC 20004–2654 Tel: 202 783 8700 Fax: 202 783 8750 www.AdvaMed.org



February 1, 2021

Honorable Senator Delores G. Kelley 3 East Miller Senate Office Building Annapolis, Maryland 21401

Dear Chairwoman Kelley:

The Advanced Medical Technology Association (AdvaMed), the national association of medical technology providers, is concerned about **SB 412**, right to repair legislation, that could require medical technology providers to share design and repair information.

Medical technology servicing and repair by original equipment manufacturers is highly regulated by the FDA and servicing of these devices is sensitive as it relates to patient safety and device system security. Medical technology manufacturers maintain their own devices or provide repair information to authorized third-party servicers they contract with for device servicing.

Federal Oversight of Medical Devices

FDA's Quality Systems Regulations (QSR) CFR 21, Section 820, define requirements addressing repair and maintenance of medical devices. QSR requirements govern methods used for the design, manufacture, packaging, labeling, storage, installation, and servicing of medical devices. The requirements are intended to ensure that devices are designed, manufactured and serviced according to established specifications and that quality is built into the product. Under the QSR, device manufacturers are responsible for establishing protocols for servicing of their devices and are required to analyze adverse events and report them to the FDA. Third-party servicing entities, not contracted with by device manufacturers, are not subject to these same provisions,

Patient Risk

There have been cases where failure to appropriately repair medical devices, or not use approved replacement parts, by non-approved third party servicers has put patients at risk. AdvaMed provided FDA with information on January 2018 from six manufacturers who recorded at least 281 adverse events (also referred to as Medical Device Reports or MDRs) from 2012 to 2017 associated with third-party servicing. For some devices (e.g., imaging devices), up to 38,500 patients and/or operators were exposed to the potential for harm. These included the following adverse events representing Actual or potential patient and/or operator impacts from these reports include:

In one example, a serious adverse event occurred after an infusion pump was repaired with a non-approved part, which resulted in an overdose of medication that harmed the patient. In addition, utilizing used X-ray tubes in imaging procedures, such as computerized tomography (CT) and in interventional cardiology may no longer meet manufacturer specifications or may not meet FDA approval requirements.

Finally, for devices that rely on computer software, cybersecurity issues could pose a threat from third party non-credentialed service providers especially where untrained staff or volunteers could obtain access to confidential information that could lead to cybersecurity vulnerabilities.

Conclusion

Thank you for considering our perspective on this complicated issue. Our members bear a significant responsibility to the FDA and individual patients that depend on us to protect the safety and security of medical devices, as well as the sensitive data that they contain. We are committed to working with you to promote digital privacy and security, while resisting dangerous interventions that impact patient safety. For those reasons, AdvaMed opposes SB 412.

Thank you for considering our concerns. Please contact me at <u>mbhatt@advamed.org</u> or 303-718-4367 if you have any questions.

Sincerely,

Marthan Bhatt

Manthan Bhatt Director, State Government & Regional Affairs

MD R_R_ SB 412.pdf Uploaded by: Bray, Andrew Position: UNF



Senator Delores Kelley, Chair Senate Finance Committee Miller Senate Office Building, 3 East Wing 11 Bladen St., Annapolis, MD 21401 – 1991

Dear Chair Kelley, Vice-Chair Feldman and Members of the Senate Finance Committee,

My name is Andrew Bray and I am the Vice President of Government Relations for the National Association of Landscape Professionals (NALP). I appear today to express our industry's opposition to SB 412, on behalf of the landscape industry. We are also members of the "Coalition Opposed to Illegal Tampering" which has expressed its opposition to this legislation as well.

NALP is the national trade organization representing the \$98 billion landscape industry employing over 1.4 million employees in the United States. Member companies specialize in lawn care, landscape maintenance, tree care, irrigation and water management. Landscape professionals throughout Maryland work daily performing essential services to homes and businesses to maintain their landscapes, sustain the environment and enhance and maintain healthy and safe green spaces.

First, we would like to explain the commitment between the landscape industry and equipment manufactures to make lawful and proper repairs. Manufacturers of lawn & garden equipment (e.g. lawn mowers, snow throwers, blowers, trimmers, chain saws) are dedicated to supporting landscape professionals and their equipment needs, reducing downtime and maximizing productivity. The landscape industry has a commitment from equipment manufactures to provide end users with information and tools needed to maintain, diagnose, and repair their equipment and to support landscape professionals right to repair.

Diagnostic and repair information and tools have been made available to end users at fair and reasonable terms. Manufacturers are committed to provide reasonable access to the following, where applicable and needed to maintain, diagnose, and repair the equipment:

- Manuals (Operator, Parts, Service);
- Product Guides;
- Product Service Demonstrations, Seminars, or Clinics;
- Fleet Management Information;
- On-Board Diagnostics via diagnostics port or wireless interface;
- Electronic Field Diagnostic Service Tools;

Today's landscape machinery utilizes cutting-edge technology to maximize productivity and minimize machine downtime. It's vital to landscape equipment owners and operators that major repairs be completed safely and in compliance with on-board operating safety, machine performance and emissions standards. Safety and Clean Air standards are of particular concern if SB 412 were to pass.

Safety is the number one most important issue for landscape professionals and SB 412 would serve to increase the risk for potential adverse safety impacts within the industry. Working on or operating equipment that has been modified (many times in unknown ways) poses a serious threat to the safety of employees within the landscape industry as well as the customers and properties they service.

The US Clean Air Act requires equipment manufacturers to build in base level tampering safeguards. Restricting access to the software that defines the machines emissions performance is part of these base level tampering safeguards put in place to meet the requirements of the act. Simply put, providing easy access to the software file for reprogramming, or "flashing", a controller makes it much easier to tamper with the emissions systems. Due to these facts, we believe that the proposed language in the bill allowing for third party access to the software is a direct contradiction of the US Clean Air Act.

Thank you for providing me the opportunity to address the Committee today, for the reasons stated herein the landscape industry respectfully requests you to oppose SB 412.

CERESVILLE NEW HOLLAND _Senate Bill 412 _ 2_3_2021 Uploaded by: Dinsmore, Robert

Position: UNF



2/3/2021

Senate Finance Committee Maryland General Assembly Annapolis, MD 21401

Chairwoman Kelley and Senate Finance Committee Members

Good afternoon Chairwoman Kelley, Vice Chair Feldman and Committee Members. For the record my name is Robert Dinsmore and I am here to testify in opposition to Senate Bill 412 because, in our industry, the bill is un-necessary and ill-advised.

I'm the principal owner of Ceresville New Holland, Inc. a farm and rural lifestyle equipment dealership located in Frederick. MD. Our company has served our community of customers since 1947 and we employ 16 people in sales, service and administration. Our business and our industry are built on long-term relationships with our customers. We hold on to those relationships based on the service we provide after the tractor is sold. Uptime of the machines purchased by our grower / producer customers and professional users is critical to them and to us.

To support customer maximum uptime, I can report the leaders in our industry are now making available to customers – on fair and reasonable terms - and through dealers like me, tools they have asked for to allow them to better control their service requirements and downtime.

A purchaser of New Holland equipment can now acquire a subscription to the diagnostic software that my technicians use in our shop. Customers can purchase the same operator's manuals, parts manuals, technical manuals and technical schematics that my employees use. Customers can purchase "how to videos" on a number of service and maintenance topics. And, customers that want to do repair have always readily been able to identify, find and purchase the parts they need when they need them. New Holland calls this our Service and Repair Information customer access. And finally, customers have access to our highly trained and equipped service technicians, in our shop, or at the customer's location.

I also should add that with each generation of new tractor the on-board diagnostics capability is enhanced, and the operator has significantly greater access to diagnostic and issue correcting information. Likewise, we continue to see vast advancements in our ability to remotely access a customer's tractor to help the customer understand and deal with any issues.

There remain two areas in the bill that are of great concern to the off-road equipment business. 1) the requirement that manufacturers provide updates to embedded software; and 2) the requirement to provide re-set capability for security systems. The owner of a piece of equipment has the right to lawfully repair his or her equipment. However, modifying or reverse engineering the embedded software can create a situation where the machine does not meet customer expectations, may exceed acceptable emission levels per the Clean Air Act, or might create an unsafe environment for those operating the vehicle, those by-standers near the vehicle, independent repair providers or my technicians repairing the vehicle. I can tell you that dealers like us do not have access to the embedded code in our machines.

The second concern is the requirement to provide re-set capability for security systems. The most common reason that a tractor goes into a "limp mode" is a failure in the engine. Failures in the engine are more often than not the result of, or create a failure of, the emission control systems on the tractor. These systems are not unlike the catalytic converter on your car. Knowingly, or intentionally, ignoring, defeating or over-riding the emissions system on a tractor is illegal and is potentially very expensive for the owner. Setting the stage for this potential situation conflicts with existing law and does not make good sense.

We believe this bill blurs the line separating repair, <u>which our industry whole-heartedly</u> <u>supports</u>, and modification, particularly in the areas of environmental and safety, which we cannot support.

For these reasons that we ask that you set aside SB - 412 particularly for off-road equipment.

Thank you for your time and consideration.

MD_TechNet_SB412 Repair.pdf Uploaded by: Gilrein, Christopher

Position: UNF



February 3, 2021

The Honorable Senator Delores G. Kelley, Chair Senate Finance Committee 3 East Miller Senate Office Building Annapolis, Maryland 21401

Re: TechNet Opposition to SB 412 – Repair Legislation

Dear Chair Kelley,

TechNet is the national, bipartisan network of technology CEOs and senior executives that promotes the growth of the innovation economy by advocating a targeted policy agenda at the federal and 50-state level. Our diverse membership includes dynamic American businesses ranging from startups to the most iconic companies on the planet and represents over three million employees and countless customers in the fields of information technology, e-commerce, the sharing and gig economies, advanced energy, cybersecurity, venture capital, and finance.

Thank you for the opportunity to provide feedback on SB 412, legislation which would mandate original equipment manufacturers (OEMs) of digital electronic equipment or a part of the equipment sold in Maryland to provide independent repair providers with comprehensive diagnostic and repair information, software, tools, and parts.

TechNet respectfully opposes this legislation. This is a complex issue that extends far beyond the stated intent of providing access to parts, tools, technical manuals, and software to a broad range of electronic products. TechNet and its members are concerned that this legislation would have the potential for troubling, unintended consequences, including serious cybersecurity, privacy, and safety risks.

Technology companies have every incentive to ensure that their customers have ample opportunity to get their products repaired – in fact, our brands depend on being able to provide superior customer service. Currently in Maryland, consumers in all corners of the state have the opportunity to have their devices repaired in a variety of locations and price points. It is imperative that technology companies be able to manage their repair networks in order to provide safe and effective repairs.

Our member companies maintain extensive networks of authorized repair partners that are well-trained and highly qualified to safely and securely repair or refurbish their products. Any repair shop can apply to become an authorized repair provider at



no cost to the repair person. Repairs and refurbished products from authorized partners ensure that a product is safe, secure, and meets factory specifications, including the most recent software updates and other improvements. This is the quality control and accountability consumers expect and deserve.

Proponents of these bills will level claims that electronic products are not getting recycled. On the contrary, electronic product manufacturers design policies and programs to ensure that they are continuously improving the sustainability of their products and reducing the overall amounts of e-waste generated. In fact, a <u>recent</u> <u>independent study</u> led by a researcher at the Yale School of the Environment's Center for Industrial Ecology, and published recently in the Journal of Industrial Ecology, has found that the total amount of electronic waste generated by Americans has been declining since 2015.

These bills also create significant safety and security concerns. Most consumer electronics use lithium ion batteries, which are small, powerful, and efficient. This enables the design of thinner and lighter portable electronics. Lithium ion batters may pose serious safety risks if they are not designed, manufactured, and installed properly. Enabling untrained and unauthorized third parties to open devices and replace lithium ion batters or other high-risk components, without adequate training, may result in serious and entirely avoidable injuries or destruction of the device. Leased equipment also presents potential financial liabilities. Many consumers choose to rent expensive equipment from service providers as a cost-saving measure, but could be responsible for the full cost of the product if improper repair results in destruction of the device.

Further, individuals keep a wealth of sensitive personal data on their devices. It is essential each repair person is properly trained in how to not only repair the device, but also establishes a relationship with the manufacturer in order to create an accountability link to protect consumers. If a consumer drops their electronic device off at a repair shop, they ought to be granted some level of security and recourse in the unfortunate circumstance that their data is compromised.

Enabling untrained and unauthorized third parties to replace and repair device components can result in the disabling of key hardware security features, and can impede the update of firmware that is important to device security and system integrity. A security breach of one device can potentially compromise the security of a platform or other connected devices in a network. It is essential to protect consumers from the introduction of malware and potential cyber-security risks and tampering concerns that unauthorized repair can lead to.

Right to Repair legislation has been introduced and defeated in over 20 states across the country because it would have allowed unrestricted access to digital keys and proprietary information for thousands of internet-connected products including smart phones, televisions, fire alarms, Wi-fi routers, computers and more. The minimal



benefits of allowing access consumers to this information is greatly outweighed by the privacy and safety risks.

We fear that once a manufacturer loses control of their ability to repair the devices they alone develop and produce, their intellectual property is at enormous risk. A government mandate would force manufacturers to reveal sensitive technical information about their products, including source code, and proprietary parts and tools. This presents a security risk for the use of a product, the network, and other devices connected to the network, and could allow for tampering with firmware controls that protect copyrighted works.

Thank you for your consideration of this testimony. Please do not hesitate to contact me if I can provide any additional information.

Sincerely,

Christopher Gilrein Executive Director, Massachusetts and the Northeast TechNet cgilrein@technet.org

SB 412 Final Final.pdf Uploaded by: Goldsmith, Mel Position: UNF

Testimony in opposition of SB 412 Senate Finance Committee

February 3 1:00 p.m.

- Chairperson Kelly and members of the Senate Finance Committee Thank you for the opportunity to present to you today on SB 412.
- My name is Mel Goldsmith and I represent Atlantic Tractor as the CEO an agriculture equipment dealership organization with 8 locations in Maryland. We employ a total of 275 employees with approximately 215 of those employees in Maryland. In brief, we oppose the passage of SB 412.
- Our dealership strives to bring our customers value in all we do. To do so, we spend significant capital each and every year to ensure our technicians have the latest tools, equipment, safety and technology training available.
- While John Deere equipment has become more sophisticated, Deere supports the customer's right to repair and has built advanced diagnostic capabilities into equipment that are available to the owner, dealers, or others. And for those customers who require even greater diagnostic capabilities, John Deere provides subscription access to "Customer Service Advisor" a specialized diagnostic tool very similar to the one we as dealers use in the field to support our customers. Additionally, end users have access to on-board diagnostic tools via in-cab display or wireless interface, as well as manuals, product guides, mobile apps and product service information. All of this is available in the marketplace today and has been for several years.
- Furthermore, **US Clean Air Act requires** equipment manufacturers to build in base level tampering safeguards. Restricting access to the software that defines the machines emissions performance is part of these base level tampering safeguards put in place to meet the requirements of the act. Simply put, providing easy access to the software file for reprogramming,

or "flashing", a controller makes it much easier to tamper with the emissions systems. Due to these facts, we believe that the proposed language in the bill allowing for third party access to the software is a direct contradiction of the US Clean Air Act.

- Acknowledging that the owner has the right to lawfully <u>repair</u> his or her equipment, John Deere recommends against unauthorized modification of the embedded software code. Providing access to the software not only undermines manufacturers' innovation and intellectual property rights, it also creates significant data privacy risks. In addition, unauthorized and illegal tampering such as changing engine horsepower, speed limits, or defeating emissions systems creates unknown liability issues for the individuals who modified the code, dealers who subsequently traded-in that equipment to resale, and/or any subsequent owners of that modified equipment.
- More importantly, beyond the liability concerns, is the risk for potential safety impacts. It is my responsibility as a dealer to ensure that my employees return to their families safely each night. Working on or operating equipment that has been modified (many times in unknown ways) poses a serious threat to the safety of our employees as well as any customer who may purchase that equipment in the used market.
- I would also like to highlight the fact that an off-road sector coalition has been established because of this very important issue. To our knowledge, it is the largest off-road coalition for any state matter, which signifies the seriousness of the issue. Coalition members represent such sectors as:
 - Marine manufactures & dealers
 - o Snowmobiles
 - Portable generators
 - Power tools
 - Remanufactured products
 - Off-highway recreational vehicles

- Equipment lenders and
- Major customers organizations such as the National Association of Landscape Professionals which is believe is testifying today in opposition.

The reason these organizations oppose this legislation is because of the very significant public safety and environmental concerns I have raised in my comments. I believe that your Committee has also received a letter of opposition to SB 412 from the Coalition.

- Right to Repair is a complicated, yet important, issue. As mentioned, our customers currently have the ability today to lawfully repair their equipment. These solutions were enacted not as a result of a legislative mandate, but rather to fulfill a need in the marketplace. For all of the reasons I have highlighted today, we oppose SB 412.
- Thank you for your consideration of our opposition against this bill.
- Questions

SB 412_Consumer Protection_Right to Repair_OPPOSE. Uploaded by: Griffin, Andrew

Position: UNF



LEGISLATIVE POSITION: UNFAVORABLE Senate Bill 412 **Consumer Protection-Right to Repair** Senate Finance Committee

Wednesday, February 3, 2021

Dear Chairwoman Kelley and Members of the Committee:

Founded in 1968, the Maryland Chamber of Commerce is the leading voice for business in Maryland. We are a statewide coalition of more than 5,000 members and federated partners, and we work to develop and promote strong public policy that ensures sustained economic recovery and growth for Maryland businesses, employees, and families.

Senate Bill 412 would require an original equipment manufacturer (OEM) to make available certain materials or updates to an independent repair provider or owner of digital electronic equipment. Commonly known as "right to repair," the legislation requires OEMs to provide consumers and independent repair businesses with equal access to repair documentation, diagnostics, tools, service parts and firmware as their direct or authorized repair providers.

The Maryland Chamber of Commerce has many concerns regarding the implications of this legislation and its potential unintended consequences.

First, we are concerned that SB 412 will unnecessarily harm consumer security. The privacy and security of user information on electronic products, in particular, is among the top priorities for the consumers that rely on them. When provided access to technical information, bad actors will be able to circumvent security protections, potentially harming product owners and all parties that share their network. Consumers of all types need reasonable assurance that the vendors they trust to repair their products will do so safely and securely. State law should not mandate that all OEMs provide a "how to" for any product and provide it for anyone who asks as it unnecessarily risks consumer privacy and security in our hyper-connected economy.

In addition, SB 412 will have negative implications for consumer safety. Manufacturers want to ensure that their products are serviced by professionals who have been trained in their intricacies, and who have the knowledge necessary to safely repair them without compromising product standards. OEMs authorized network of repair facilities guarantee that repairs meet performance and safety standards. Without the training and other quality assurance

60 West Street, Suite 100, Annapolis 21401 | 410-269-0642

MDCHAMBER.ORG

requirements of authorized service providers, manufacturers would not be able to stand behind their work, warranties, technical support, training, and business support.

Lastly, the marketplace already offers consumer choice for repair with varying levels of quality, price, and convenience. SB 412 would harm the marketplace by undermining the relationship that OEMs have with authorized repair facilities, many of which are small businesses. These authorized providers have received appropriate training and are qualified to ensure that repairs are done safely and securely.

For these reasons, the Maryland Chamber of Commerce respectfully requests an **UNFAVORABLE REPORT** on SB 412.

Hoober Senate Bill 412 2-3-21 Brad Hershey.pdf Uploaded by: Hershey, Brad

Position: UNF



<u>Two Maryland Locations:</u> New Windsor, MD 21776 Pocomoke, MD 21851

2/3/2021

Senate Finance Committee Maryland General Assembly Annapolis, MD 21401

Chairwoman Kelley and Senate Finance Committee Members

Good afternoon Chairwoman Kelley, Vice-Chair Feldman, and Committee Members. For the record, my name is Brad Hershey, and I am here to testify in **opposition to Senate Bill 412**.

I am a Shareholder and Store Manager of Hoober, Incorporated. We are a Case IH, Kubota, and JCB farm equipment dealership with locations in New Windsor and Pocomoke. We have additional business locations in Delaware, Pennsylvania and Virginia that help serve Maryland consumers. Our company was started by my grandfather, Bud Hoober, in 1941 and we have steadily grown to employ over 350 people in parts, service, sales, and general management.

The farm machinery Hoober sells is indeed an "integral link" in the world's food supply chain. Our business is built on customer support and increasing farmer productivity. Each year we invest heavily in training, technology and infrastructure that enables us to support the machine uptime that is vital to our customer's success.

Our company, and our major suppliers, support our customers, farmers and contractors, **right-to-repair**.

Right now, we and our major equipment supplier partner, make available to our farmer customers – on a subscription basis - the diagnostic and information tools they need to allow them to control their service requirements and machine downtime.

These tools are the same documentation, manuals, and information that our own technicians use. The electronic diagnostic tools provide the same output and service code information that our technicians see while diagnosing and repairing equipment whether remotely or on the farm.

If a Maryland customer of ours wants these tools, we support them in securing them and using them in a safe and productive manner. Likewise, with each new model year, manufacturers are providing significant advancements in our dealership ability to remotely access a customer's tractor or combine to rapidly help understand and deal with any repair issues.

We also work with local independent repair providers in our area by selling them parts, diagnostic tools, and information when they need it.

The electronic diagnostic and information tools that we currently make available to customers draws the clear distinction between lawful repair and unlawful modification. We support our customer's right-to-repair.

However, our dealership, our employees, our suppliers, and fellow members of the off-road equipment community cannot support a right to access, or even worse, modify embedded code and operating software in machines that are complex and potentially dangerous when not maintained and operated properly.

Creating a pathway to deploy modifications that potentially run counter to the US Clean Air Act mandated engine emissions controls, OSHA operator and by-stander safety mechanisms, performance of warranty or safety campaigns or altered machine operating and performance settings that adversely impact the used equipment market, does not serve the interest of Maryland public policy or the robust off-road equipment economy in the State of Maryland.

It is for these reasons that we ask that the committee take an unfavorable vote on SB – 412.

Thank you for your time and consideration. I am happy to take questions.

AHAM Written Statement in Opposition of SB 412.pdf Uploaded by: Keane, John

Position: UNF



1111 19th Street NW ≻ Suite 402 ≻ Washington, DC 20036 t 202.872.5955 f 202.872.9354 www.aham.org

WRITTEN STATEMENT

JOHN KEANE LEGISLATIVE AND REGULATORY SPECIALIST

ON BEHALF OF THE ASSOCIATION OF HOME APPLIANCE MANUFACTURERS

MARYLAND GENERAL ASSEMBLY SENATE FINANCE COMMITTEE

SB 412 RELATING TO CONSUMER PROTECTION – RIGHT TO REPAIR OPPOSED

FEBRUARY 3, 2021

Leadership > Knowledge > Innovation
Chairwoman Kelley and Vice Chair Feldman, and members of the Committee, thank you for the opportunity to share the view points of the home appliance manufacturing industry regarding the potential impacts of the concept of right to repair, SB 412.

AHAM represents manufacturers of major, portable and floor care home appliances, and suppliers to the industry. AHAM's membership includes over 150 companies throughout the world. AHAM members employ tens of thousands of people and produce more than 95% of the household appliances that are shipped for sale within the United States. The factory shipment value of these products is more than \$30 billion annually. The home appliance industry, through its products and innovation, is essential to consumer lifestyle, health, safety and convenience. Through its technology, employees and productivity, the industry contributes significantly to the US job market and the nation's economic security. Home appliances also are a success story in terms of energy efficiency and environmental protection. The purchase of new appliances often represents the most effective choice a consumer can make to reduce home energy use and costs.

AHAM believes that so-called "Right to Repair" concepts that are part of SB 412 are overly broad. A basic reading of the definition of "Digital Electronic Equipment" can be interpreted to include the home appliance industry and, therefore, raises serious questions that AHAM strongly urges the Committee to carefully consider.

Home appliance manufacturers are continuously innovating in order to make better and more functionally convenient products for consumers. This includes ensuring that consumers have access to highly educated, trained and certified repair technicians. Home appliance manufacturers not only ensure that authorized repair providers are properly trained and certified, manufacturers also take necessary precautions so that when a repair provider enters a private home that the home owner as well as the property are safe and secure. The fact that repair providers enter consumers' homes to conduct appliance repairs presents a different set of circumstances regarding the repair of digital electronic equipment.

AHAM believes that SB 412- Right to Repair come into conflict with important industry doctrines:

- Safety: SB 412 poses serious product, property and consumer safety concerns.
- Cyber Security: SB 412 requires manufacturers to make certain technologies available to independent third parties who may not have the proper certification and training thus exposing the home to cyber threats.
- Manufacturer's Warranty: SB 412 could negate manufacturer's factory warranties.

<u>Safety</u>

Safety is a top priority for AHAM members. The industry designs appliances that are as safe as they are useful and consumers recognize this commitment. Today there are more than 860 million appliances in use largely without incident and 93 percent of consumers believe home appliance manufacturers do a good job in providing safe and quality appliances. Moreover, another 85 percent understand that safety policy is a top priority for the industry. The primary reason that so-

called Right to Repair is of concern to the home appliance industry is the broad safety concerns raised. There are three principal safety concerns: product safety, consumer safety and property safety.

Product Safety

SB 412 requires that manufacturers make all diagnostic and repair documentation available to independent third parties or equipment owners. Today, home appliances contain highly advanced operating systems and many of these products are considered smart or connected devices.

Manufacturers develop diagnostic tools for certified engineers who have the educational and technical background and training necessary to troubleshoot, diagnose and conduct repairs to the appliance. A right to repair concept would broadly expand the universe of technicians that could access diagnostic tools and information. Also, manufacturer authorized servicers are typically required to perform repairs with manufacturer authorized parts that have been tested and qualified to meet the reliability and safety requirements of the home appliance product. Opening up the repair process to any third party services will loosen the control in this area significantly and could have a considerable impact on the safety and reliability of the product. In addition, manufacturers control the software used for service technicians. Without proper training, significant damage to the appliance and the home can occur if these tools are improperly used.

Today, modern appliances contain sophisticated and technologically advanced electronics and internal controls that are uniquely designed and programmed for specific products. These electronics and internal controls contain safety features (both software and hardware) that are relied upon for the safe operation of the appliance. Manufacturers very strictly and carefully control the access to these features by certified service professionals when performing any diagnostics and repair. Manufacturers often invest substantial resources to ensure diagnostic tools are impervious to failure and tampering by the manufacturers own agents, the manufacturer will employ software and Information Technology tools specific to its agents to guarantee the service. The same cannot be ensured once these tools are opened up to unaffiliated third party servicers. It could be detrimental to the inherent safety of the appliance if access were to be granted in the public domain where defeating any of these features (either intentionally or inadvertently) could happen during diagnostics and repair, which could then create potential safety hazards to the consumer.

For example, the home appliances industry is constantly innovating and advancing our products in order to deliver optimum solutions to consumers, which are energy efficient and continually better for the environment. Newer refrigerant gases that are non-ozone depleting and have very low global warming potential are an example. Comprehensive training is required in order for a technician to handle and conduct repairs on systems that contain different types of refrigerant. Mixing refrigerant types can be problematic and dangerous. An older product designed to operate with R134a gas refrigerant does not have the appropriately designed relays and electrical mechanical components for the newer R600a refrigerant. R600a gas is a flammable refrigerant gas that has positive attributes to reduce climate change and has started to be added to new refrigeration products in the U.S. market. It is critical that technicians are properly trained to identify which product utilizes which gas and how the gas is properly handled to ensure the utmost safety.

Authorized servicers can be directly trained and tools provided to 1) allow technicians to understand the systems included on every model and 2) repair those products appropriately. The same concerns hold true for the manipulation of LPG and natural gas in cooking products, dryers and water lines and the appropriate manipulation of 110V and 220V electrical connections. If not properly installed, leaks and overheating can occur.

Most appliance products are required by National Electric Code as well as other applicable building/mechanical codes to be listed or certified under applicable North American Safety Standards (such as Underwriter Laboratories or UL standard). These safety standards ensure a product and all of its components will operate in a safe and reliable manner. Right to Repair evades many of the safety provisions that Underwriters Laboratory (UL) and others test against.

For example:

Underwriters Laboratory North American Dryer Safety Standard (UL2158/CSA 22.2 no. 158)

This UL safety standard has safety requirements such as motor overload protection, door/lid opening or temperature limiting. These requirements were put in place to mitigate risks of electrical shock, injury or fire. Manufacturers often design the electronic controls which are embedded into either hardware or software and often both work together systematically to ensure the system operates safely and meets the UL requirements. To ensure the safety critical functionalities are reliable, both the hardware and software of these controls are certified to applicable safety standards (i.e. UL60730 or UL60335 or specific requirements of the product safety standard). These standards have rigorous requirements to test and validate the required safeguards. The standards are stringent to the point that any design or manufacturing changes to these components by a manufacturer often requires recertification by a Nationally Recognized Testing Laboratory (NRTL) to the applicable standard in order to ensure that the required safety has not been compromised.

Manufacturers apply the same rigor to the <u>repair</u> and or replacement of these components when training their service personnel as well to the service parts themselves. More often than not, OEM service parts and components are also listed or certified to the same safety standards as the appliance product. The potential safety impacts of a repair and replacement are complex concepts and topics that manufacturers have to incorporate into service training on an ongoing basis. Authorized service personnel training is generally an interactive, detailed, time consuming and resource intensive process, utilizing trainers and engineers. An unauthorized or general service repair person will not have the benefit of this rigorous training and most likely will not understand nor be aware of the complex and integrated safety functionalities of the system and may compromise the integrity of the product during a repair.

Underwriters Laboratory (UL) North American Washer Safety Standard (UL2157/CSA 22.2 no 169

High efficiency (HE) washers employ electronic lid switches to ensure that no one can access the rotating basket while it is spinning very fast. These switches are often controlled by the Electronic control, which monitors the lid switch signal and employs a braking mechanism to stop the basket from spinning if a user opens the lid. The same components are also utilized for other functional and safety requirements. Diagnosing and repairing a similar HE washing machine requires an indepth understanding of the full system which authorized servicers are given as part of their training. An untrained servicer may employ a repair using a non-OEM part or incorrect connections can compromise the whole system that may result in a potential safety issue and/or performance degradation.

Property Safety

Appliance repairs when not performed correctly can be the cause of property damage, e.g., flooding and fires. Insurance claims as well as increases in homeowner's insurance premiums could result if independent third parties improperly perform in-home repairs. Additionally, in the event of significant property damage and/or personal injury, the manufacturer could face legal claims.

Manufactures, in general, have process and procedures in place that track repairs completed through their servicer network. This allows the manufacturer to create traceability of repairs for their customers/consumers and is one of the critical factors if fire or another sort of property damage were to occur. Opening up this domain to third-party servicers, inhibits the ability for manufacturers to track any repairs made to home appliance products and has the potential to create issues in determining liability if the source of the repairs cannot be readily identified. Traceability is also important because improper repair or servicing can be a cause of appliance fires. Finally, this assists insurance companies and other entities if the incident requires investigation.

Consumer Safety

The nature of appliance repairs requires repair technicians to enter the homes of consumers. Inhome safety and security is of paramount importance to appliance manufacturers and we assume the same holds true for independent service technicians. Manufacturers who certify technicians may require extensive background checks as well as drug screening, and as previously mentioned technical and safety training. If manufacturers are required to make their technical information public knowledge, they no longer have the ability to address whether the technicians who are entering the homes of consumers have completed the necessary technical, safety and security checks. Under this bill, a repair person may only need a business license.

Cyber Security

In an increasingly connected world, the threat of cyber-attacks has extended into the home through connected technology. In fact, connected devices are in nearly every home, and the total number of those devices is expected to reach 26 billion. Home appliances touting "smart features" are already in the market. AHAM's member companies are leading the way in bringing connected appliances to customers around the world and are committed to addressing those concerns so

that consumers are able to access the full, life-enhancing potential of connected appliances while minimizing potential cyber threats. Without the proper training, independent third party service providers could unknowingly expose consumers to cyber threats while conducting un-secured repairs to these products.

SB 412 disregards security implications brought to light by requiring the release of firmware and other software systems within home appliances. Hacking, data privacy, cyber threats are real concerns, as homes become more connected. Right to Repair concepts have ignored these very real threats and will likely make home appliances more vulnerable to cyber-threats and corruption. For example, security key pairings have to be embedded in the firmware. If a manufacturer is required to provide the firmware to third parties, the manufacturer is providing the keys to the operating system, once the keys become public it completely breaks the firmware security chain and the home appliance is not fully secure.

This also applies to remote and wireless interaction. Connected appliances in some circumstances require Wi-Fi connectivity to the consumer's personal in-home network. Manufacturer authorized technicians when performing repairs or instructing consumers on the use of such products could gain access to those private networks. Manufacturer authorized technicians are under contract, for whom the authorized service providers may have traceability. Opening that access up to independent third parties may give unauthorized personnel access to consumer's private Wi-Fi network and create opportunity for further risk exposure.

Manufacturer's Warranty

Of course consumers are free to choose their service provider and replacement parts. But most manufacturers explicitly state that the warranty on the product is <u>void</u> in case of defects or damage caused by the use of unauthorized parts or service. That means that if a repair goes wrong, the cost of future repairs that might have been covered under the warranty could now be the consumer's responsibility. As such, there is the potential to harm consumers rather than providing benefits.

Conclusion

Thank you for the opportunity to present this written statement to the hearing record. Right to Repair concepts raise serious safety, cyber-security and contractual concerns for the home appliance manufacturing industry. AHAM strongly urges that this Committee reconsider whether or not legislation is in the best interests of Maryland consumers.

MD SB 412 CTIA Opposition 2.1.21.pdf Uploaded by: McCabe, Lisa



Testimony of Lisa McCabe CTIA Opposition to Senate Bill 412 Before the Maryland House Economic Matters Committee February 3, 2021

Chair Kelley, Vice Chair Feldman and members of the Committee, on behalf of CTIA, the trade association for the wireless communications industry, I am here to testify in opposition to Senate Bill 412. CTIA's members include wireless service providers, infrastructure providers, suppliers and manufacturers.

The marketplace already provides a wide range of consumer choice for repair with varying levels of quality, price and convenience without the mandates imposed by state legislation.

This legislation would harm the marketplace by weakening the relationship that manufacturers have with authorized repair facilities and provides no protection or quality assurance for consumers.

For example, manufacturers have relationships with authorized repair providers. These providers – which include local small businesses – have received the appropriate training from manufacturers and have the qualifications to help ensure that repairs are done properly and safely.

Manufacturers want to make certain the repair providers they work with understand the numerous components of the electronic products being repaired. Their authorization to perform repairs ensures that the changes made to the devices are compatible with current technology and the networks on which they operate.

Manufacturers also prize consumer brand loyalty and have gone to extraordinary lengths to establish that the devices they produce are of the highest quality. Authorized repair ensures those products maintain that high quality and guarantees that repairs meet the manufacturer's standards.

In addition to authorized repair providers, manufacturers may offer walk-in repair options at retail as well as mail-in services. Insurance providers may also offer repair options, including authorized third party remote technicians that will travel to the consumer to perform repairs.



Moreover, consumers can currently avail themselves of numerous independent repair alternatives although manufacturers cannot guarantee the quality assurance of independent repair providers.

To further address the repair marketplace, CTIA recently launched two programs related to repair, the Wireless Industry Service Excellence (WISE) Technician Certification Program and the WISE Authorized Service Provider (ASP) Certification Program.

The WISE technician program educates and tests wireless device repair technicians on industry-recognized standards, certifying those that meet the highest standards for service quality and technical skill. The first certification of its kind, WISE-certified device repair technicians provide consumers with a predictable, high-quality repair experience.¹

The WISE ASP program creates a network of certified retail locations, helping consumers identify qualified providers that meet the highest standards for service quality and wireless device repair.²

Both programs were created by CTIA's Reverse Logistics and Service Quality Working Groups, which convene members representing the entire reverse logistics community to address the wireless industry's challenges and develop requirements for industry-recognized standards in repair and refurbishment of wireless devices.

CTIA is also concerned that this legislation would have a number of unintended consequences for the security and operation of electronic devices. Legislation mandating the sharing of important and proprietary information regarding how electronic products operate, specific schematic diagrams and service code descriptions could weaken cybersecurity on devices and potentially harm the security of devices and the networks themselves.

Cyber criminals could more easily circumvent security protections, harming not only product owners but also everyone who shares their network. In an era of sophisticated cyberattacks, we should not make it easier for cyber criminals to hack security protections.

In addition, even if an independent repair provider is provided the technical information mandated under this bill, without specific training on reassembling a device, the provider could unintentionally cause antenna performance problems, stress on the device's frame, heat buildup or degradation of water tightness.

For these reasons, CTIA asks that you not move this legislation.

¹ <u>https://www.ctia.org/news/ctia-launches-technician-certification-program</u>

² <u>https://www.ctia.org/news/ctia-launches-retail-certification-program-for-wireless-device-repair</u>

SB412_CTA_DMoyer_(UNF)_2.1.21.pdf Uploaded by: Moyer, Daniel



1919 S. Eads St. Arlington, VA 22202 703-907-7600 **CTA.tech**

February 1, 2021

The Honorable Dolores Kelly, Chair The Honorable Brian Feldman, Vice-Chair Members, Maryland Senate Finance Committee

Re: Consumer Technology Association Opposition to Senate Bill 412

Dear Chair Kelley, Vice-Chair Feldman, and Committee Members:

On behalf of the Consumer Technology Association (CTA), thank you for the opportunity to present testimony outlining our opposition to SB 412. We are very concerned with this bill which would require manufacturers of electronic equipment to provide third parties with diagnostic and repair information, software, tools, and parts.

CTA is the trade association representing the U.S. consumer technology industry. Eighty percent of CTA's more than 2,000 member companies are small businesses and startups; others are among the world's best-known manufacturing and retail brands. Our member companies have long been recognized for their commitment and leadership in innovation and sustainability.

CTA is concerned with SB 412 on several fronts, and many of those concerns are outlined in detail in the electronics manufacturers' opposition letter dated February 1, 2021. In addition to the security and consumer safety issues outlined in that letter, our comments here will focus on the sustainability rationale for this legislation as articulated by some bill proponents. Proponents of this legislation argue that it will reduce landfilling of electronic waste in Maryland. However, this argument is based on misunderstanding the electronics recycling ecosystem.

Electronics – the Fastest Declining Product in the Municipal Solid Waste Stream

According to the U.S. EPA¹, electronics are the fastest-declining product in the municipal solid waste stream. The most recent EPA data show that consumer e-waste generation declined 5% from 2017 to 2018, and from 2015 to 2018 declined by 13%. This EPA data is corroborated by a recent study by Yale and Rochester Institute of Technology researchers

1

https://www.epa.gov/facts-and-figures-about-materials-waste-and-recycling/durable-goods-product-specificdata





which concludes that e-waste generation in the U.S. peaked in 2015 and is in a period of extended decline (see "<u>Electronic Waste on the Decline, New Study Finds</u>").

Mobile devices continue to have value even at end of life, and consumers frequently trade them in. According to CTA's biennial survey on how consumers handle their devices, only 2% of consumers report throwing their old mobile device in the trash while nearly 10 times as many reported either trading in their old mobile device, selling it, giving it away, or recycling it. Applying those survey results roughly to Maryland's population would mean that while approximately 90,000 smart phones are disposed annually, more than 750,000 smart phones are traded in, sold, given away, or recycled every year. When viewed by weight and as a percentage of the more than 6 million tons of solid waste disposed in Maryland in 2018, smart phones represent around 0.0007% of all disposed material.

Given these data and the demand for used smart phones – if anyone is considering throwing their old smart phone in the trash, please reconsider because most still have economic value because of the reuse market – SB 412 would not measurably decrease mobile device disposal.

Making sure devices are kept out of the trash is an important priority for manufacturers, so repair and reuse are important elements of manufacturers' networks. Repair and reuse are even included as aspects of governmental green procurement standards.

Last year, 26 states examined and rejected similar legislation. No state wanted to engage in unwarranted intervention in the marketplace with one-size-fits-all mandates that compromise consumer safety and protection. For the reasons listed above, and those further examined in the manufacturers' coalition letter we signed on to, we respectfully urge you to not move SB 412 out of committee. Thank you again for the opportunity to present our concerns with this legislation. If you have any questions, please do not hesitate to contact me at dmoyer@cta.tech.

Sincerely,

Vail 2. May

Dan Moyer Sr. Manager, Environmental Law & Policy Consumer Technology Association

OPEI testimony on MD SB 412_Senate Finance 2021020 Uploaded by: Mustico, Daniel

Outdoor Power Equipment Institute

February 3, 2021

-- TESTIMONY --

Maryland Senate Finance Committee

re: Senate Bill 412 - Consumer Protection; Right to Repair

Chair Kelley, Vice-Chair Feldman, members of the committee

My name is Daniel J. Mustico and I represent the Alexandria-VA based Outdoor Power Equipment Institute, as its Vice President of Government & Market Affairs. I am also a proud resident of Montgomery County Maryland.

I appear today to express our industry's opposition to SB 412, on behalf of our association's 100+ U.S. manufacturer members. We are also members of the "Coalition Opposed to Illegal Tampering" which has expressed its opposition to this legislation as well.

OPEI is an international trade association representing the manufacturers and their suppliers of non-road gasoline powered engines, personal transport & utility vehicles, golf cars and consumer and commercial outdoor power equipment ("OPE"). OPE includes lawnmowers, garden tractors, trimmers, edgers, chain saws, snow throwers, tillers, leaf blowers and other related products. OPEI member companies and their suppliers contribute approximately \$16 billion to US GDP each year. OPEI members currently distribute their products across all 50 states, through a diversity of retail outlets including independent dealers who are authorized to sell and service their equipment through a contractual arrangement.

Representing Maryland in our diverse OEM membership are Stanley Black & Decker based in Towson and Wright Manufacturing based in Frederick. Across the state, our industry's diversity of products are both ubiquitous and essential to Marylander households and businesses. Nationwide there are approximately 250 million legacy products in use and new shipments of 30 million products annually.

Today, I want to focus my remarks on two fundamental concerns.



First, SB 412 RISKS IMPAIRMENT OF PRODUCT SAFETY CONTROLS AND CREATES THE POTENTIAL FOR

UNSAFE PRODUCTS. The improper modification of software risks making OPE products non-compliant with applicable safety standards. A primary example is the potential for impairment of Operator Presence Controls (OPC) which protect the operator from injury by disabling powered components when an operator is not actively controlling the equipment. Other examples common to industry products are machine controls for product power & speed, direction, steering, and braking; as well as the attempted modification of or tampering with lithium-ion batteries which are not amenable to any form of repair.

Second, SB 412 RISKS IMPAIRMENT OF PRODUCT EMISSION CONTROLS AND VIOLATION OF FEDERAL

LAWS. Where applicable, OPE is subject and compliant to product air emission regulations, which is governed by the machine's electronic / software controls. SB 412 risks potential product modifications and/or tampering which compromises air emission controls and compliance with the law.

In conclusion, our members and today's marketplace effectively provide for the service needs of OPE users, making SB 412 unnecessary and counterproductive for our industry, our retailers and dealers, and ultimately our customers. I have attached to my submitted testimony further details on many of my summary points today, as well as information on where OPEI provides public-facing education on this important subject.

I appreciated the opportunity to address the committee today. Thank you.

Outdoor Power Equipment Institute

WHY Outdoor Power Equipment (OPE) Manufacturers OPPOSE "Right to Repair" Legislation

State legislation is overly broad AND confuses the "Right to Repair" with improper "Right to Modify". The OPE industry is committed to the consumer's right to repair and has serious concerns with the unintended consequences of this legislation as currently written.

WHO WE ARE, AND IMPORTANT UNIQUE ASPECTS OF THE OPE INDUSTRY:

- \$16 billion U.S. industry;
- 105 U.S. manufacturer members;
- U.S. OPE industry employs 150,000 workers;
- OPE is manufactured with a diversity of power sources (e.g. gas, diesel, battery, AC);
- Examples include lawn mowers, snow throwers, chain saws, generators and more;
- All OPE manufactured today relies on electronics / software code for various functions;
- Product use is ubiquitous in American households and businesses of all sizes, totaling approximately 250 million legacy products in use and new shipments of 30 million products annually;
- Product offerings are increasingly electrifying with lithium-ion battery technology;
- Different from other products, many types of OPE have significant service lives and markets for reuse, re-manufacture, and recycling;
- OPE is sold and serviced (when applicable) through a diversity of channels including dealers, retailers, and e-commerce;
- Serviceability of products is diverse, as is price, and service life;
- Industry has a long history of consumer safety in-part through the development of safety standards and engagement with government.

WHY "RIGHT TO REPAIR" LEGISLATION IS THE WRONG APPROACH, FAILS TO SERVE CONSUMERS AND HARMS MANUFACTURERS:

- OPE maintenance, diagnostic, and repair needs cannot be equated with other equipment and products such as consumer electronics;
- Broad scope legislation is impractical for the OPE industry as products are significantly diverse according to price, service life, retail channel, and serviceability;
- For products with significant service life, improper/faulty repair and/or modification can negatively impact the re-sale value of the product;
- Improper/faulty repair and/or modification can void the product's warranty;
- OPE manufacturers already provide tools necessary for the proper diagnosis, maintenance and repair of products, where applicable;
- In some cases, legislation may infringe upon OEM intellectual property protections;
- In cases where additional maintenance, diagnostic, and repair tools are still required or preferred for applicable products, effective 2023 manufacturers of residential and commercial lawn & garden equipment will offer such additional resources for purchase [for information see <u>www.opei.org/right-repair-solutions/</u>].



WHY "RIGHT TO REPAIR" LEGISLATION RISKS IMPAIRMENT OF PRODUCT SAFETY CONTROLS AND CREATES POTENTIAL FOR UNSAFE PRODUCTS:

- Improper modification of software risks making products non-compliant with applicable safety standards;
- Potential to impair Operator Presence Controls (OPC) which protect against injury by disabling powered components when an operator is not actively controlling equipment;
- Potential to impair all applicable machine controls including those for product power & speed, direction, steering, and braking;
- Potential to expose OPE users to unsafe engine emission levels due to improper emission control modification;
- Where applicable to OPE, lithium-ion batteries are not amenable to any form of repair.

WHY "RIGHT TO REPAIR" LEGISLATION RISKS IMPAIRMENT OF PRODUCT EMISSION CONTROLS AND VIOLATION OF FEDERAL LAWS:

- Where applicable, OPE is subject and compliant to product air emission regulations, which is governed by the machine's electronic / software controls. "Right to Repair" legislation risks potential product modifications which compromise air emissions and compliance with the law;
- "Right to Repair" legislation potentially inhibits federal jurisdiction over the regulation of engine emissions and the protection of OEM intellectual property rights.

Learn more at www.opei.org/right-repair-solutions/

ESA MD SB 412 Right to Repair Oppostion 2-1-21.pdf Uploaded by: Ryan, Tara

Good morning Madam Chair and Members of the Committee.

- My name is Tara Ryan, with the Entertainment Software Association. I am here today, respectfully, to oppose SB 412, which seeks to create a "Right-to-Repair" mandate.
- ESA is the trade association representing companies that publish computer and video games for PCs, mobile devices, and video game consoles. The makers of all three major console systems Microsoft, Nintendo, and Sony are ESA members.
- People who play video games represent a diverse cross-section of the United States, spanning every age, gender, and ethnicity. Not only do 75% of U.S. households have at least one gamer at home, our industry also has an economic footprint that touches every state. In Maryland, for example, there are more than 30 video game publisher, developer, and hardware companies.
- Consoles offer security safeguards that help protect our players' personal data and sensitive information that may be stored locally. Accordingly, permitting repair by unauthorized parties may create risks that bad actors could exploit.
- Top games can take several years to develop and cost tens of millions or, in some cases, more than a \$100 million to produce.
- Video game consoles are unique in the digital electronics space.
 - There are real consequences related to these proposals that will have a direct and lasting impact on the consumer experience.
 - A "Right-to-Repair" mandate poses a high risk to game publishers and other copyright owners who rely upon the secure media environment of the game console to safeguard their works against sophisticated piracy efforts.
- It is a fact that there is a thriving modification market offering tools and other ways to modify game consoles in order to play these illegal games downloaded from the Internet.
- To help prevent content theft, video game software, firmware, and hardware have built-in security features, known as "technological protection measures," or TPMs, to prevent the play of unauthorized video game content and access to other content.
- TPMs help to create a secure media platform. The biggest benefit of a secure media platform is that it provides video game publishers, music distributors, and video streaming platforms with assurances that their content will be safe.

- Sharing hardware schematics, sensitive diagnostic information, tools, and securityrelated reset codes with unauthorized third parties, would compromise the security of the entire platform, and harm console makers and copyright owners.
- ESA and the console makers have a strong interest in ensuring that game console owners have access to affordable, high-quality, safe, and reliable repairs. All three console makers offer repair services beyond the warranty period. Keeping consoles in good working order and ensuring product integrity are important to console makers.
- While we cannot provide exact time frames given that not all repairs are equal, console makers strive to see to it that consumers does not have to spend very long without their system. If a product is not under warranty, the goal is to provide reasonable repair prices.
- Piracy is a constant threat to the video game industry.
- In October 2020, two leaders of one of the world's most notorious videogame piracy groups, "Team Xecuter," were arrested and faced charges filed in U.S. District Court in Seattle.
 - The DOJ statement indicated that the prevention of the theft of intellectual property is a priority. These arrests should send a message to would-be pirates that the FBI does not consider these crimes to be a game
- Every day, millions of Americans enjoy playing video games on consoles. The continued viability and success of the game console business is dependent upon a trustworthy and secure delivery platform.
- If platforms are compromised, which we believe they will be if a "Right-to-Repair" mandate is imposed, it will hurt game publishers, console makers, and consumers' trust in a protected and entertaining game-play environment.
- Thank you for allowing me to testify today.

MD SB0412_Diesel Tech Forum_Schaeffer_UNFAVORABLE_

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Before the

Maryland General Assembly Senate Finance Committee <u>Regarding Senate Bill 0412 (SB0412)</u> Consumer Protection, Right to Repair February 2021

Statement of

Allen Schaeffer, Executive Director Diesel Technology Forum 5291 Corporate Drive Suite 102 Frederick MD 21703

My name is Allen Schaeffer, and I am the executive director of the Diesel Technology Forum, and we are a not-for profit educational organization headquartered in Frederick MD, established in 2000. We are proud to represent manufacturers of diesel engines and equipment, components, petroleum, and renewable biofuel producers. A list of our members is attached.

Over the last two decades, the Diesel Technology Forum has been an active participant and consistent supporter of efforts to reduce in-use diesel emissions in Maryland.

- This includes working with the Maryland Department of the Environment, Maryland Port Authority, the Ozone Transport Commission and EPA Regional and EPA HQ efforts, and a Diesel Emissions Reduction dialogue lead by the Maryland Environmental Health Network to name a few.
- Three years ago, we were here in Annapolis in <u>support</u> of since enacted legislation from then delegate now Senator Clarence Lam that established higher fines and penalties for those found to be emitting excessive exhaust emissions from pick-up trucks – a practice known as rolling coal, that is facilitated by altering the programming of the truck engine and or modifying the emissions control systems, <u>which is related to the subject of today's hearing</u>.

I am here today in opposition to Senate Bill 0412 because if enacted, it has the potential to

- make Maryland's air dirtier, not cleaner,
- jeopardize heavy-equipment safety for both farmers, vehicle service technicians and the public that share roads, and
- facilitate a practice that is in clear violation of the federal Clean Air Act.

Diesel engines and fuel power nearly all farm tractors and machines thanks to its unique combination of efficiency, power, durability, and reliability. Over the last two decades, manufacturers of diesel engines and equipment have invested billions of dollars to reduce emissions and meet federal clean air requirements. As a result, today new diesel models of everything from highway tractor trailers to

construction machines, work boats and farm tractors now achieve near zero emissions for both nitrogen oxides and particulate matter, as you can see in the attached chart in my written testimony.

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These advances in lower emissions are a key part of Maryland's clean air plan and achieving the national ambient air quality standards here in our state.

Achieving near-zero emissions in new diesel engines is accomplished thanks to a highly integrated system controlled by engine control units -- ensuring on a real time basis that the engine performance of the machine is meeting EPA emissions standards and is in compliance with safety requirements.

This legislation seeking to provide so called Right to Repair opportunities could also be titled "Right to Tamper," as it seeks to legitimize and facilitate the modifying of farm equipment software. Being sold as "boosting performance for pennies on the dollar compared to the cost of buying higher-capacity equipment." In fact, this practice may void the equipment's warranty along with insurance agreements and is illegal in the U.S.

The U.S. Clean Air Act requires equipment manufacturers to build in base level tampering safeguards in emissions control units/engine computers. Restricting access to software that defines the machine's emissions performance is part of these base level tampering safeguards put in place to meet the requirements of the Act.

A new development since this Committee heard testimony on this topic in March of 2020 is that US EPA Air Enforcement Division ("AED") released a substantial <u>report</u> in November of 2020 regarding the incidence of tampering with diesel engines and emissions controls.

- Based on EPA enforcement actions, they identified that a substantial portion of the subject vehicles identified by USEPA enforcement actions had software modifications to their engine emissions control units.
- As a result, USEPA AED estimates that the emissions controls have been removed from more than 550,000 diesel pickup trucks nationwide in the last decade. As a result of this tampering, more than 570,000 tons of excess oxides of nitrogen (NOx) and 5,000 tons of particulate matter (PM) will be emitted by these tampered trucks over the lifetime of the vehicles.
- The report did not directly quantify the extent of tampering in off road engines and equipment, but it notes that ...AED has reason to believe this conduct occurs within most or all categories of vehicles and engines, including commercial trucks, passenger vehicles, pickup trucks, motorcycles, forestry equipment, and agricultural equipment.
- These findings highlight the challenging and real problem of what happens when there is tampering with engine emissions controls; passage of SB0412 would only further enable, facilitate, and encourage this practice.

We are also concerned with the impacts of modifying engine emission controls on the safety and reliability / durability of altered machines and how these alterations impact other machine functions that are controlled by software.

Beyond emissions concerns are those regarding safety. Modifying engine computers to boost performance can result in higher operating speeds, exhaust temperatures, overheating, accelerated

wear and stress on high-speed parts, like power take off's and hydraulic and belt-driven systems. There are also a number of documented cases of personal injury from tractors and machines where unauthorized engine programming modifications were made.

Summary

Manufacturers are implementing plans to facilitate more access to tools and documentation needed for repair. For all these reasons and others, we urge your vote in opposition to SB0412 because so-called Right to repair legislation takes us the <u>wrong way</u> for clean air and the <u>wrong way</u> on safety.

Thank you for the opportunity to appear today.

Allen Schaeffer Executive Director Diesel Technology Forum, 5291 Corporate Drive Suite 102 Frederick MD 21703 ph. 301-668-7230 aschaeffer@dieselforum.org www.dieselforum.org





NAVDA Construction Position Statement SB 412.pdf Uploaded by: Wareham, Eric



North American Vermeer Dealers Association P.O. Box 419264 | Kansas City, MO 64141 P: 816-561-5323 | F: 816-561-1249

SB 412 Position Statement

The proposed legislation is unnecessary and divisive with far-reaching unintended consequences. At the outset, construction equipment should not be part of this bill. Construction equipment is not a consumer good. Construction equipment purchases involve large transactions that are primarily business-to-business with sophisticated parties on both sides.

Concerning construction equipment, what this bill intends to achieve is already available to end users. Diagnostic equipment, manuals, tools and software updates are accessible already from manufacturers. In addition, major construction equipment manufacturers have committed to providing greater access to diagnostic capabilities by 2021 as part of an industry commitment to improve the ability of customers to perform their own repairs.

End users of construction equipment have the right to repair, not modify. This bill would open up the ability to modify equipment in a way that would jeopardize the safety of our dealer's employees, the security of customer's data, and the protections provided for proprietary information.

Finally, if passed, this bill would likely be held unconstitutional on several grounds. First, it would violate both the state and federal contracts clause. Equipment dealers and manufacturers have long-established agreements that provide exclusive areas of responsibility for selling and servicing equipment. Second, it would most likely be pre-empted by federal copyright law, the federal Defend Trade Secrets Act, and the federal Computer Fraud and Abuse Act.

This bill would create an entirely new regulatory framework that would needlessly jeopardize proprietary information, create unforeseeable changes to existing contracts between equipment dealers and original equipment manufacturers, and would very likely not withstand constitutional scrutiny for several reasons.

For these reasons, we urge you to oppose SB 412.

Eric Wareham North American Vermeer Dealers Association