

Maryland Handgun Roster Board Twenty-Second Annual Report on the Status of Personalized Handgun Technology

July 1, 2023

About the Report

The Maryland Handgun Roster Board is legislatively mandated to report annually on the status of personalized handgun technology. This requirement was part of the Responsible Gun Safety Act of 2000, and is now in the Public Safety Article, §5-132(d,) Annotated Code of Maryland. The following report from the Maryland Handgun Roster Board seeks to address and satisfy this requirement.

The report documents the findings of the review of Personalized Handgun Technologies as conducted by the Maryland Handgun Roster Board. The Board conducted the review through research and examination of publicly available resources including articles, reports, and documents that the Board was able to identify, and did not commission any independent analysis. The Board reviewed a set of references that was as comprehensive as possible given the Board's limited resources, but the references reviewed should not be considered an exhaustive list of all possible items related to personalized handgun technology.

Executive Summary

Review completed by the Board indicates there is currently no reliably available personalized handgun technology as of June 2023. The Handgun Roster Board continues to note that although the technology to produce personalized handguns does exist, it is still not a commercially available and reliable 'handgun package'. However, in the past year, two companies have made announcements that may indicate that firearms with personalized handgun technology may be available in the near future.

The National Institute of Justice continues to provide the most detailed analysis and reporting on personalized handgun technology and their report "Review of Gun Safety Technologies" published in June of 2013 is the most recent report of significance that stakeholders should reference on the topic. While some parties have exited the personalized handgun technology

arena and other parties have entered, the overall number of parties and effort working in this area does not appear to have changed significantly from recent years.

Section 1 – Personalized Handgun Technologies Available for Sale

As of June 2023, there is currently no personalized handgun technology that is commercially available for sale in Maryland or any other State. Since the last report on Personalized Handgun Technologies, there have been few changes in the state of the firearms development or availability and to date no firearms with personalized handgun technology are available to consumers. The most notable updates, since the last report in 2022, are a new company Biofire Technologies has started taking pre-sale orders for their firearm with delivery expected in 2024, and SmartGunz, LLC continues to report that their Sentry Pistol will become available for sale in 2023.

It continues to be observed that all the parties currently developing personalized handgun technology are smaller companies and that no major firearms manufacturer has publicly disclosed current or future plans to develop or bring to market personalized handgun technology. While major firearms manufacturers like Colt, Remington, and FN have previously indicated they were working on personalized handgun technology, it continues to appear that none of them have continued such work. The reason(s) for this are not objectively known, but it does support the broader observation that personalized handgun technology is not likely to be widely commercially available in the near future.

In 2022, Biofire Technologies announced that it raised several million dollars of funding to develop and produce a new firearm called The Biofire Smart Gun® which is reported to utilize biometric sensors to provide personalized handgun technology¹. Since that time, Biofire has released more details of their firearm, which can be found on their website, including how the technology will utilize both fingerprint sensors and face recognition technology to authenticate users. Biofire hosted a video call on May 15, 2023 with members of the Maryland State Police (MDSP) and the Maryland Handgun Roster Board to share some of the details of their firearm and plans to bring it to market. The details presented by Biofire align with the information from their website and recent media campaign of videos and articles about their product. Neither MDSP nor the Maryland Handgun Roster Board was provided a sample of the firearm as it is not yet in final production or sale. As of June 1, 2023, Biofire is taking pre-sale orders with delivery

1. Biofire Technologies Inc, News, March 6, 2022, <https://biofire.io/news-founders-fund-leads-biofire-series-a>

expected in late 2023 or 2024 depending on the pre-sale package selected. The package prices being offered for pre-sale start at \$1,499 and go up based on accessories and options.

In 2021, the Kansas based company SmartGunz, LLC announced that they would begin taking pre-sales of their 9mm 1911 style Sentry pistol². The Sentry pistol has SentryGunz's patent pending lock-out technology, which utilizes RFID worn by the user to achieve personalized handgun functionality. The Sentry pistol was available for pre-sale at a cost of \$2,195.00 with expected delivery in Q2 of 2023³, but it appears the company is no longer taking pre-orders on their website. In December 2021, the company announced that they had made their first sale of the product to a law enforcement agency as part of the company's evaluation program to gain feedback from law enforcement users⁴.

In January of 2022, the Pennsylvania based company Lodestar Works Inc. announced the introduction of a 9mm pistol with personalized handgun technology called the LS9. This firearm reportedly utilizes grip sensor, RFID, and Bluetooth technologies to implement personalized handgun functionality. The company is beta testing the product and originally announced it expected to have it commercially available in 2022, but it is currently not yet available⁵.

The German company Armatix GmbH has expressed interest in selling their .22 caliber iP1 pistol model in 2014, and their 9mm iP9 in 2016; however, to the best of the Board's knowledge, the company never sold the product in the United States, and it is unclear if the company has any further plan to pursue sales of their product⁶.

In 2013, the Utah based company Kodiak Industries expressed interest in selling their .45 caliber *Intelligun* technology using fingerprint recognition⁷; however, to the best of the Board's knowledge, the company never sold the product and it appears the company does not have any further plan to pursue sales of their product as it appears the company is no longer in business.

2. Holland, "SmartGunz, LLC Announces Ordering Availability of 9mm 1911 Sentry Pistol for \$1,995", SmartGunz LLC, Jul 12, 2021, <https://smartgunz.co/2021/07/smartgunz-llc-announces-ordering-availability-of-9mm-sentry-pistol-for-1995/>
3. SmartGunz LLC, Civilian Products, Jan 10th 2023, <https://freestatefirearms.co/2023/01/fsf-llc-announces-availability/>
4. Holland, "SmartGunz, LLC Announces First Sale of 9mm 1911 Sentry Pistol to Law Enforcement", SmartGunz LLC, Dec 17, 2021, <https://smartgunz.co/2021/12/smartgunz-llc-announces-first-sale-of-9mm-1911-sentry-pistol-to-law-enforcement/>
5. Daniel Trotta, "Smart guns finally arriving in U.S., seeking to shake up firearms market", Reuters, Jan 11, 2023, <https://www.reuters.com/technology/exclusive-smart-guns-finally-arriving-us-seeking-shake-up-firearms-market-2023-01-11/>
6. Alex Yablon, "With New Smart Gun, Industry Pioneer Bets Bigger Is Better", TheTrace, Mar 2, 2017, <https://www.thetrace.org/2017/03/new-armatix-smart-gun-law-enforcement/>
7. "Intelligun(R) Brings Innovation and the Next Level of Firearm Safety Technology to the World at the 2013 SHOT Show(R)", Yahoo Finance, Jan 15, 2013, <https://finance.yahoo.com/news/intelligun-r-brings-innovation-next-144500480.html>

In the late 1990's, iGun Technology Corporation of Florida developed a shotgun using an RFID ring that could be classified as personalized handgun technology; however, to the best of the Board's knowledge, the company never sold the product, and it is unclear if the company has any further plan to pursue sales of their product⁸.

Section 2 – Study, Analysis or Evaluation of Personalized Handgun Technologies

The National Institute of Justice (NIJ) is the research, development, and evaluation agency of the U.S. Department of Justice. NIJ has been tracking, studying, and assessing personalized handgun technology dating back to the 1990's. Over the years, they have produced detailed reports relating to the various personalized handgun technologies and companies seeking to produce products with these technologies. They have also assessed the impacts, reliability demands, and challenges to adoption within law enforcement and the civilian populations. NIJ's reports are some of the best resources for stakeholders to reference with regards to personalized handgun technology. NIJ's reports and documents relating to "Smart Guns" can be found here <https://nij.ojp.gov/taxonomy/term/21231>.

The most recent notable report from NIJ is from 2013 entitled "Review of Gun Safety Technologies". This review outlines the products and technologies that were available at the time, which include many of the products highlighted above in section 1 of this report. NIJ outlined and assessed various technologies under development, but ultimately made similar conclusion to this Board in that there were no commercially available products with personalized handgun technology⁹. The report also provided a perspective on the risk and reliability of personalized handgun technology acknowledging that concerns regarding the reliability and potential performance of personalized handgun technologies will affect user acceptance and that personalized handgun technologies must not adversely affect the reliability of firearms¹⁰.

While the NIJ report from 2013 remains the most recent and comprehensive study the Board has reviewed, there are several other reports that while dated or less comprehensive, remain worthy of note for reference including:

8. iGun Technology, <https://www.iguntechnology.com/faq/index>

9. Mark Green, Ph.D., *A Review of Gun Safety Technologies*, National Institute of Justice, June 2013, <https://www.ojp.gov/pdffiles1/nij/242500.pdf>

10. Mark Green, Ph.D., "A Perspective on Risk, Reliability, and Person-Centric Technologies" in *A Review of Gun Safety Technologies*, Page 19, June 2013, <https://www.ojp.gov/pdffiles1/nij/242500.pdf>,

- Smart Gun Technology Requirements Preliminary Report by Sandia National Laboratories in 1995. <https://www.osti.gov/servlets/purl/71695>
- Secure Weapon System Smart Gun Technology Phase I report by FN Manufacturing in 2001. <https://www.ojp.gov/pdffiles1/nij/grants/189247.pdf>
- Gun Safety Technology Challenge conducted by NIJ in 2015. <https://nij.ojp.gov/funding/gun-safety-technology-challenge#publication>

The Board has not been made aware of any other state, local, law enforcement or other agencies having conducted or published studies or evaluations of personalized handgun technology in the recent past. However, given the reported sale of the SmartGunz product to law enforcement for evaluation, the Board will be monitoring to see what findings will be made available for future reports.

Section 3 – Additional Relevant Information

This report does not seek to be a comprehensive reporting of all industry development; however, the Board has been made aware of various companies working on personalized handgun technology. For reference, a list of companies or groups reportedly working on developing personalized handgun technology can be found below:

- SmartGunz, LLC - <https://smartgunz.co/>
- LodeStar Works - <https://lodestarworks.com/>
- Armatix GmbH – website no longer active (<http://armatixus.com>)
- Kodiak Industries – website no longer active (<http://kodiakarms.com>)
- Biofire Technologies Inc. - <https://biofire.io/>
- iGun Technology Corporation - <https://www.iguntechnology.com/>
- Machine Inc. - <https://machine.tech>
- New Jersey Institute of Technology - <https://www6.njit.edu/news/spotlight/2005/jan/index.php>
- Colt Manufacturing - <https://www.colt.com/>
- FN Herstal - <https://fnherstal.com/en/>

Membership of the Maryland Handgun Roster Board as of July 1, 2023

Colonel Roland L. Butler, Jr., Chair	Superintendent, Dept. of State Police
Major Scott Keyser (designee)	Dept. of State Police
Mr. P. Michael Errico	Citizen member
Ms. My Harrison	Citizen Member
Ms. Jennifer Gill	Mechanical/Electrical Engineer
Mr. Jonathan Maurath	Mechanical/Electrical Engineer
Mr. Carl Roy	Representative of handgun dealer, gunsmith or handgun manufacturer
Colonel (USA Retired) Ira Click	Representative of the National Rifle Association
Mr. Robert Bajefsky	Representative of an organization that advocates against handgun violence
Chief Michael Spaulding	Representative of Association of Chiefs of Police

Appendix

Maryland Code Public Safety

Title 5 – Firearms

Subtitle 1 - Regulated Firearms

§ 5-132. Handgun safety devices

(d) Report.

(1) The Handgun Roster Board annually shall:

(i) review the status of personalized handgun technology; and

(ii) on or before July 1, report its findings to the Governor and, in accordance with § 2-1246 of the State Government Article, to the General Assembly.

(2) In reviewing the status of personalized handgun technology under paragraph (1) of this subsection, the Handgun Roster Board shall consider:

(i) the number and variety of models and calibers of personalized handguns that are available for sale;

(ii) each study, analysis, or other evaluation of personalized handguns conducted or commissioned by:

1. the National Institute of Justice;

2. a federal, State, or local law enforcement laboratory; or

3. any other entity with an expertise in handgun technology; and

(iii) any other information that the Handgun Roster Board considers relevant.