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COLONEL
MICHAEL A. JACKSON
SUPERINTENDENT

July 1, 2026

The Honorable Wes Moore
Governor
State House
100 State Circle
Annapolis, MD 21401

The Honorable Bill Ferguson
President of the Senate
The Senate of Maryland
H-107 State House
Annapolis, MD 21401

The Honorable Joseline Peña-Melnyk
Speaker
Maryland House of Delegates
State House, H-101
Annapolis, MD 21401

RE: Personalized Handgun Technology
Report required by Public Safety Article 5-132(d) (MSAR #2033)

Pursuant to Public Safety Article 5-132(d), the Maryland Department of State Police submits to you the report of the Maryland Handgun Roster Board on the *Status of Personalized Handgun Technology*.

With the passage of the Responsible Gun Safety Act of 2000, the Board is committed to review and report its findings on the subject of personalized handguns. The Board remains dedicated to keeping the State of Maryland informed on this vital technology.

Should you or any member of the committees have any additional questions or concerns, please do not hesitate to contact my office by telephone at 410-653-4219 or by email at msp.superintendent@maryland.gov.

Sincerely,

Colonel Michael A. Jackson
Superintendent

cc: Ms. Sarah Albert, Maryland Department of Legislative Services Library (5 Copies)

Status of Personalized Handgun Technology

Public Safety Article, Section 5-132

Maryland Department of State Police

July 1, 2026

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

July 1, 2026

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 codified 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 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

The Board's review indicates that, as of June 2026, there are currently three firearms with personalized handgun technology available for sale, only one of which is currently on the Maryland Handgun Roster and approved for sale in the State of Maryland. The Biofire Technology handgun was approved for sale in Maryland in December 2024. The Lodestar Technology Inc. LNK9 is currently in the process of being presented to the Board for addition to the Maryland Handgun Roster. Beyond Maryland, Free State Firearms LLC is reported to be selling a 1911-style pistol with RFID technology. The Sentry Pistol from Free State Firearms LLC has not been presented to the Handgun Roster Board for review or approval. The Handgun Roster Board notes that, while other companies are pursuing firearms with personalized handgun technology, the above manufacturers and firearms appear to be the only ones currently available, or close to being currently available.

Additionally, while the Biofire Technology handgun was approved for sale in Maryland by the Handgun Roster Board in December 2024, it was not approved without objection[1]. Several questions about the usefulness and effectiveness of the technology were raised, and the Board's approval of the firearm for sale should be viewed as a determination of the firearm's compliance with Maryland Code of Regulations 29.03.03.10, not as an endorsement by the Board of the personalized handgun technology in this or any other firearm. The Board's addition of the Biofire Technology handgun to the Handgun Roster should be viewed only as a determination that the firearm is not disallowed for public use, and not that it is safer or better than any other firearm.

The National Institute of Justice continues to provide the most detailed analysis and reporting on personalized handgun technology, and its report, "Review of Gun Safety Technologies," published in June 2013, is the most recent report of significance that stakeholders should reference on the topic. While the last few years have seen the most activity in personalized handgun technology actually coming to market, these developments come from the limited number of parties that have been developing products for several years. The overall number of parties and the level of effort devoted to these technologies do not yet appear to have changed significantly from recent years.

Section 1 – Personalized Handgun Technologies Available for Sale

As of June 2026, there is currently one firearm with personalized handgun technology available for sale in the State of Maryland, and two firearms are reported to be for sale, but neither has been approved by the Handgun Roster Board and added to the Maryland State Handgun Roster at this time. The manufacturers of these firearms have not disclosed sales volumes, but it appears that distribution and usage are still limited and not widely available, as the firearms are being sold through limited online channels. While the availability of personalized handgun technology is limited, this past year has been a turning point for the technology, as the industry has gone from having zero to having three handguns with personalized handgun technology. Over the past several years, these manufacturers have shown the most progress in bringing the technology to market, and that continues to remain the case, as no other manufacturers are reporting, appear to be developing, or are marketing that they are close to selling personalized handgun technology.

1. MD Handgun Roster Board Meeting Minutes https://mdsp.maryland.gov/Organization/Office%20of%20Equity%20and%20Inclusion/Pages/CriminalInvestigationBureau/LicensingDivision/HandgunRoster/Minutes%20Dec%204%202024.pdf

It continues to be observed that all 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 personalized handgun technology to market. While major firearms manufacturers like Colt, Remington, and FN have previously indicated that they were working on personalized handgun technology, it continues to appear that none of them have continued such work. The reason or reasons for this are not objectively known, but this supports the broader observation that personalized handgun technology is not likely to be widely commercially available in the near future.

In December 2024, the Board approved for sale in Maryland the Biofire Technologies handgun called the Biofire Smart Gun®, making it the first and only handgun available for sale in Maryland with personalized handgun technology. The firearm is a 9mm semi-automatic pistol that utilizes biometric sensors, including fingerprint and face recognition, to provide personalized handgun technology[2]. Biofire hosted multiple calls with members of MDSP and the Maryland Handgun Roster Board to share details of the firearm, and the details presented by Biofire align with the information on its website and in its recent media campaign of videos and articles about the product. Package prices start at $1,499 and increase based on accessories and options. To date, the company has not disclosed sales volumes, and sales are currently available only through the manufacturer's website.

In March 2026, Lodestar Technologies Inc. (formerly Loadstar Works Inc.) submitted a petition for the inclusion of its LNK9 firearm on the Handgun Roster during the June 2026 Handgun Roster Board meeting. At the time of this report, the June Handgun Roster Board meeting has not been held, and the outcomes of that meeting are not included in this report.

Lodestar Works had previously announced plans to introduce a 9mm pistol with personalized handgun technology called the LS9; it appears that this technology has evolved into the LNK9 firearm submitted to the Handgun Roster Board. The LNK9 firearm is a 9mm pistol that utilizes hand-specific (left/right) fingerprint sensors, a PIN code, and Bluetooth technologies to implement personalized handgun functionality. The previously reported LS9 firearm used grip sensors and RFID technologies that no longer appear to be present in the latest LNK9 firearm. The LNK9 has internal electronics, including a battery, comes with a charging station, and is recommended to be charged every day; alternatively, a "deep sleep" mode can be manually enabled, which extends the battery life to 5 days. The LNK9 is listed for sale on the manufacturer's website for $994.99[3].

2. Biofire Technologies Inc, FAQ https://smartgun.com/faq
3. Lodestar Technologies Products https://www.lodestartech.com/lnk9.html

In November 2024, the Kansas-based company Free State Firearms LLC (formerly SmartGunz LLC) announced a dealer partnership and the sale of its Sentry pistol. The Sentry pistol is a 9mm 1911-style handgun with SentryGunz's patent-pending lock-out technology, which utilizes an RFID ring worn by the user to achieve personalized handgun functionality. The handgun is available for sale only through a limited number of partner dealers and is currently available for order at a retail price of $1,895-$3,495[4]. In April 2026, the company announced that the Real County, Texas, Sheriff's Office had deployed the Sentry Pistol for prisoner transport operations[5]. The Sentry Pistol has not been presented to the Maryland Handgun Roster Board for review and is not currently on the approved firearms list for sale in Maryland; information about this firearm is limited to materials published publicly by the manufacturer. The company has not disclosed sales figures for the Sentry pistol.

As was noted during the Handgun Roster Board meetings related to the BioFire petition, and as is corroborated by research and evidence from other manufacturers of personalized handgun technology, the current market for such firearms is very limited and directed toward limited use-case scenarios with niche sales. The electronic nature of the BioFire and Lodestar technologies leaves them suited for limited applications, such as home defense, and not for duty or operational scenarios. Conversely, the Free State Firearms firearm is reportedly being used by one law enforcement agency; however, that technology has no biometrics and uses basic RFID solutions that do not provide robust personalization capabilities. No firearm has yet been able to provide a proven, broadly reliable, dependable, and operational platform.

The German company Armatix GmbH expressed interest in selling its .22 caliber iP1 pistol model in 2014 and its 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 whether the company has any further plans to pursue sales of its product[6].

In 2013, the Utah-based company Kodiak Industries expressed interest in selling its .45 caliber Intelligun technology using fingerprint recognition[7]; however, to the best of the Board's knowledge, the company never sold the product, and it appears that the company has no further plans to pursue sales, as it appears to no longer be in business.

4. Free State Firearms Products https://freestatefirearms.co/our-products/
5. https://freestatefirearms.co/2026/04/real-county-tx-sheriffs-office-deploys-rfid-based-user-authenticated-firearm-for-prisoner-transport-operations/
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 1990s, 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 whether the company has any further plans to pursue sales of its product[8].

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

The Board is not aware of any additional publicly available study, analysis, or evaluation of personalized handgun technologies since 2013; while dated, the Board continues to report on the last available items of which it is aware below to address the requirements for the report.

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 since the 1990s. Over the years, it has produced detailed reports relating to the various personalized handgun technologies and companies seeking to produce products with these technologies. It has also assessed the impacts, reliability demands, and challenges to adoption within law enforcement and civilian populations. NIJ's reports are among the best resources for stakeholders to reference with regard to personalized handgun technology. NIJ 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 the 2013 report 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 reached a conclusion similar to that of the Board: there were no commercially available products with personalized handgun technology[9]. 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 such technologies must not adversely affect the reliability of firearms[10].

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,

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

- 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.

Section 3 – Additional Relevant Information

The Board has identified three additional relevant topics on the subject of personalized handgun technologies. First, the Board is aware of various concerns with personalized handgun technology that should be considered. Second, during discussions with Biofire Technology, it was learned that Biofire Technology is advocating against and warning about the possible unintended negative impacts of mandates for firearms with personalized handgun technology. Third, as a reference, the Board continues to track and report a list of organizations of interest related to the development of personalized handgun technologies.

Concerns related to Personalized Handgun Technology

While the potential benefits of personalized handgun technology are straightforward and commonly understood, the downsides or unintended consequences are less obvious and should also be understood. During the Board's review and assessment of the Biofire Technology handgun in December 2024, some Board members raised concerns about the usefulness, application, and effectiveness of personalized handgun technologies, specifically with the Biofire Technology handgun but also more broadly as a concept as a whole. Below is a summary of some of the concerns and comments of which the Board is aware:

- The introduction of electronics, or even additional mechanical components, into a firearm inherently creates reliability concerns, potentially preventing the firearm from performing when needed and thereby creating safety concerns if the firearm is depended upon for self-defense or law enforcement situations.
- The use of batteries to power the technology also creates both reliability and usability concerns, as batteries are prone to failure and introduce their own chemical and fire-safety concerns.
- Currently, Maryland has safe gun storage regulations to ensure that firearms are safely stored and locked to prevent theft and unauthorized use. The integration of personalized handgun technology into firearms raises two potential concerns related to safe storage. First, some manufacturers, including Biofire, envision users storing their firearms in the open, rather than in safes, while relying upon the integrated personalized handgun technology to provide the necessary safety. It is not clear how this would comply with Maryland regulations. Second, the integrated personalized safety technology may give users a false sense of security, making owners less likely to properly store or lock their firearms, as evidenced by the marketing of the Biofire handgun as a firearm that can be stored in the open in a living room; this raises possible safety concerns going forward.
- As noted above with the Biofire handgun, the introduction of electronic fire controls to achieve personalized handgun technology makes firearms susceptible to hacking and tampering to circumvent the controls or possibly even introduce new capabilities, such as fully automatic fire controls. This concern is not limited to electronic personalized handgun technology, as similar observations have been made with mechanical interlock controls, where the capabilities can easily be bypassed by removing or modifying components. This concern highlights that the benefits of the technology may not be realized, or may at least be significantly reduced, if users can easily bypass it.
- With the variants of technology currently presented, each firearm appears to fit only a small and specific use case for users. For example, the Biofire technology, while potentially useful for home defense, could not be considered for many other use cases, such as hunting, law enforcement, or self-defense outside the home. The Free State Firearms technology with RFID rings could potentially be used in a duty or wear-and-carry capacity, but it would not meet the needs of self-defense in the home, hunting, or other use cases. This may change as the technology advances, but this inherent limitation is likely to prevent widespread user adoption and acceptance and may lead to increased firearm sales if users need multiple firearms to satisfy multiple uses.

Biofire Technology warning against Smart Gun Mandates

During reviews and discussions with Biofire Technology, the Board was made aware of the position taken by Biofire Technology on the subject of legislative or regulatory mandates for the adoption of personalized handgun technology, a.k.a. "Smart Gun Mandates." Without solicitation, Biofire Technology made it a point to share its position and make the Board aware of its advocacy in opposition to legislative mandates because, in its assessment, such regulations counterintuitively limit, slow, or prevent the adoption of personalized handgun technology and, therefore, such regulations or mandates should be avoided[11]. Biofire Technology has gone on record in multiple states and testified to this opinion, often citing the regulations in New Jersey, which have since been repealed, as a clear example of how the development of this technology has been hindered by such regulations and mandates. Biofire's positions are publicly available for review online, and Biofire has previously expressed willingness to engage in similar future discussions if requested.

Further reflecting on this position, there is evidence supporting this claim in the Board's previous reporting and in the observed development of the technology over time. For several years after the implementation of this reporting requirement, the Board had little to no updates to provide, as the industry and the technology were virtually nonexistent. It has only been in the past few years that the Board has observed notable changes in that pattern, roughly corresponding to when the New Jersey Smart Gun Mandates were repealed, suggesting there is evidence to support Biofire's position that the mandates actually worked against the intended goal of improving public safety through personalized handgun technology.

11. Biofire Technologies llc. Biofire's Stance on Mandates https://smartgun.com/explore/videos/biofire-s-stance-on-mandates

List of Organizations of Interest

This report does not seek to be a comprehensive report 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/
- Free State Firearms LLC - https://freestatefirearms.co/ (previously SmartGunz LLC)
- 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, 2026

Colonel Michael A. Jackson, Chair	Superintendent, Dept. of State Police
Major Andy Johnson (designee)	Dept. of State Police
Mr. Ivan Bates	Representative of the Maryland State's Attorney Association
Dr. Cassandra Crifasi	Citizen Member
Ms. Kim Dennis	Citizen Member
Mr. Jonathan Maurath	Mechanical/Electrical Engineer
Mr. Carl Roy	Representative of handgun dealer, gunsmith or handgun manufacturer
Mr. Daniel Popp III	Representative of the National Rifle Association
Mr. Robert Bajefsky	Representative of an organization that advocates against handgun violence.
Chief Stephen Yates	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.