EVIDENCE iQ

BALLISTICS IQ AND NIBIN, THE PERFECT SYNERGY

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The key to solving firearms violence is to identify the shooter as quickly as possible.
Unfortunately, when one shooting happens, it can kick off a vicious cycle of shootings based on the initial incident. Individuals want to retaliate against the initial shooter and thus return to seek vengeance.

This can lead to a never-ending cycle of shootings and bloodshed, often catching innocent victims in the crosshairs. Law enforcement agencies need to intercede before these retaliatory shootings happen and use every tool in their toolkit to help identify those involved. This is where **Ballistics IQ (BIQ)** and the *National Integrated Ballistics Information Network* (NIBIN) provide the tools to meet this demand. I need to be clear on one point that has been causing some confusion – BIQ is NOT trying to replace **NIBIN**.

The Bureau of Alcohol, Tobacco, Firearms, and Explosives (ATF) and the **NIBIN** program are very well established and have been helping law enforcement agencies solve violent firearm crimes for decades. Having spent 26 years as a *Special Agent* with ATF and even overseeing the **NIBIN** program, I personally know how it has assisted agencies.

FOLLOW THE CLUES

The clues and evidence left behind at shooting incidents are a wealth of information for investigators. While there is a potential for **DNA** and/or fingerprint evidence to be left on the fired cartridge cases (FCC) recovered at the crime scene, there is one type of evidence that will **ALWAYS** be found. When a firearm is discharged, individual microscopic markings are left on areas of the cartridge case by the firing pin, ejector, extractor, aperture, and breech face of the firearm itself.

All these markings are unique to individual firearms and this is how *Firearm and Tool Mark Examiners* can link the firearm to recovered FCC's. This is also exactly what both **BIQ** and **NIBIN** do to aid investigators.

TECHNOLOGY IS THE ANSWER

NIBIN has been in existence since 1997 and is a program run by the Bureau of Alcohol, Tobacco, *Firearms and Explosives (ATF)*. The technology that the NIBIN program utilizes is from a company called *Ultra Electronic Forensic Technologies* and the *Integrated Ballistic Identification System (IBIS)* machine is used to capture the images of the FCC's. Law enforcement agencies recover FCC's from crime scenes and test-fired from known firearms and submit them to one of only several hundred **IBIS/NIBIN** locations throughout the United States for scanning and review. For reference, there are approximately 17,000 law enforcement agencies in the United States.

BIQ is a relatively new technology conceived by *Vigilant Solutions* who was then acquired by *Motorola Solutions* in 2019. *Motorola Solutions* decided they did not want to have a forensic portfolio so in 2020 they entered into an agreement with a newly formed company, **Evidence IQ**, to take over the entire product portfolio.

Both **Ballistics IQ** and *CrimeConnect IQ* have amazing technology capabilities to scan **FCC's** from crime scenes/test-fired from known firearms and provide investigators the information they need to actively work their investigations within a couple of hours of submission. Under this scenario, a law enforcement agency recovers 10 **FCC's** from a crime scene and would want to enter them into the **NIBIN** program.

Depending on their internal policies there are at least three (3) different workflow scenarios on how the evidence would get scanned into the **NIBIN** Program:

1. They have a machine on-site at their department.

2. They utilize a neighboring/regional department's machine.

3. They send the evidence off to a state laboratory.

Prior to actual entry of a **FCC** into the system, either a firearms examiner, a **NIBIN** technician or someone who has training in firearms identification would have to look at each **FCC**, typically under a magnification. They would separate them into separate firearms, which is known as triaging, and decide which **FCC(s)** to scan into the **NIBIN** program to represent each firearm. Based on where they agency is located? must submit their evidence; this can be a lengthy process and delays in getting their evidence into the system.

However, once scanned into the system, **NIBIN** technology looks for similarities in their database between the newly submitted **FCC's** and ones previously scanned. Then a *NIBIN technician / Firearms Examiner* will review the results of the search and provide the agency any leads or correlations to other shooting events.

The agencies can also utilize the *ATF NIBIN National Correlation and Training Center* to provide these services if they do not have trained staff to review the correlations. The time it takes to provide results to the agencies varies depending on the above-noted workflows.

STEP ONE IN THE PROCESS

Ballistics IQ (BIQ) enters the picture to provide agencies immediate actionable intelligence in their shooting incidents as well as helps their overall **NIBIN** workflow process. **BIQ** technology is very similar to that of **NIBIN**, but the overall process is streamlined. Let's take a look at that same scenario of 10 FCC's recovered at a crime scene. With the use of **BIQ**, agencies can scan the cartridge cases, either on location at the crime scene or from within their department.

Immediately after scanning, they will receive a *Crime Scene Analysis (CSA)* report with the number of unique firearms utilized in that incident and the specific cartridge case from each identified firearm as best suited for entry into the **NIBIN** system. This means that **BIQ** will conduct the triaging process for the agencies.

The agencies can then forward that CSA report to the *Virtual Correlation Center (VCC)* where contract *Senior Firearm and Tool Mark Examiners* will review the report, identify types of firearms used in the incident, search the nationwide gallery, and provide any potential links, typically within hours after submission.

By utilizing **BIQ**, in conjunction with an agency's current **NIBIN** workflow, they will see immediate results. The **CSA** report providing the unique number of firearms at the incident and if a collected firearm is associated with the scene cartridge cases is immediate actionable intelligence investigators can use. Identifying the best **FCC** for entry into the **NIBIN** process will streamline the triaging process and reduce the workload for the agency. Rather than having to submit all 10 **FCC's**, in the **NIBIN** workflow scenario mentioned above, they only need to submit the ones that **BIQ** identified for entry into the NIBIN system.

This will take the triaging workload off *Firearms Examiners or Technicians* receiving the evidence which allows them to focus on other important bench work. Additionally, the evidence submitted for **NIBIN** entry from **BIQ** will reduce increase the quality of evidence in the **NIBIN** program by reducing any unnecessary scans. As mentioned before, **BIQ** is not trying to replace **NIBIN**, rather it is step one in the **NIBIN** process.

COMMON GOALS

Agencies need to leverage all available technologies and utilize them as part of their investigative toolkit. Both **BIQ** and **NIBIN** are in perfect synergy to reduce overall violent firearms crimes and help agencies solve crimes quicker. It is our *Ethos.*