



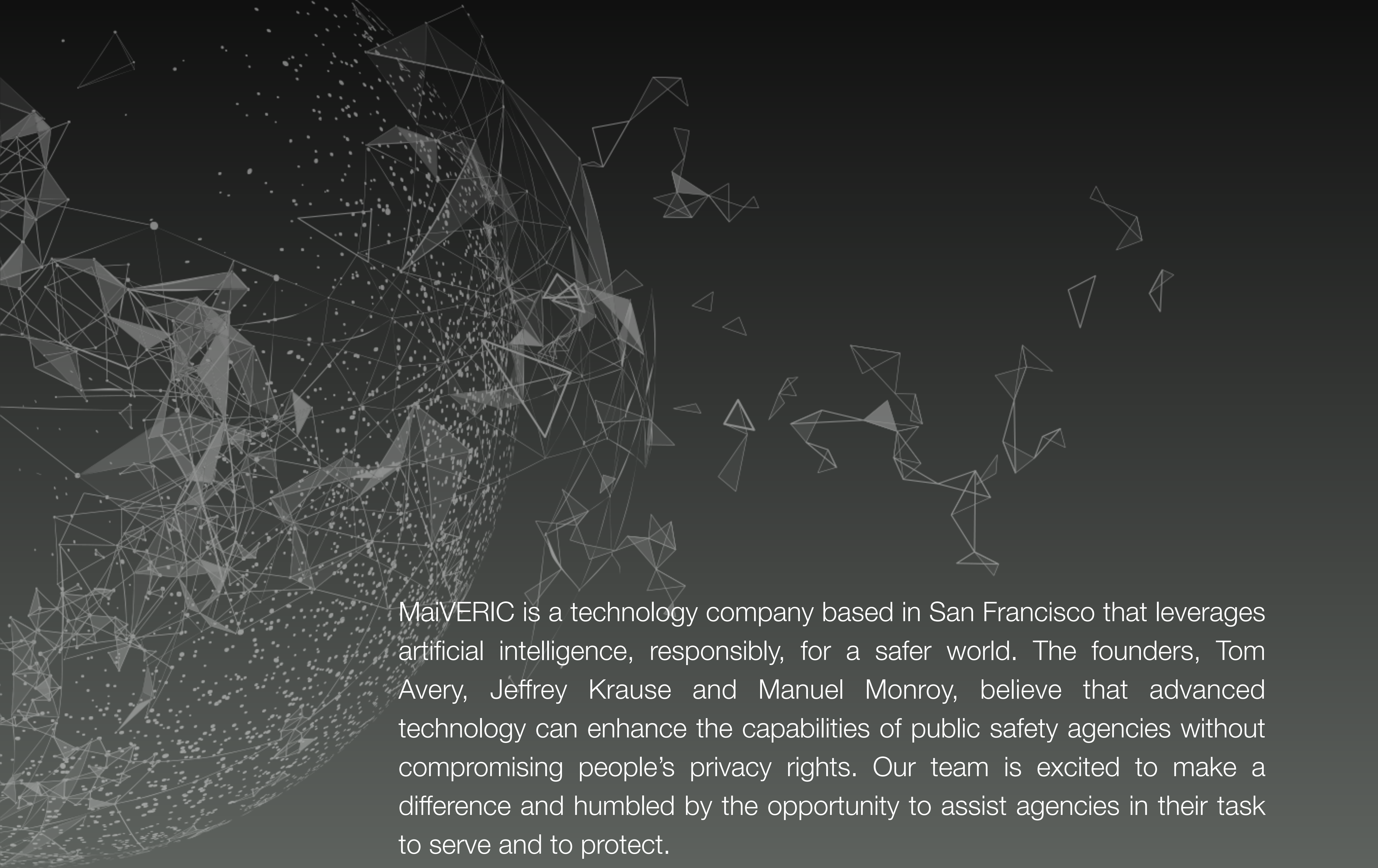
# Using Technology to Solve More Cases

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**EyeWitness**





MaiVERIC is a technology company based in San Francisco that leverages artificial intelligence, responsibly, for a safer world. The founders, Tom Avery, Jeffrey Krause and Manuel Monroy, believe that advanced technology can enhance the capabilities of public safety agencies without compromising people's privacy rights. Our team is excited to make a difference and humbled by the opportunity to assist agencies in their task to serve and to protect.

We look forward to working with you.

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# We enable investigators to efficiently compare crime scene evidence to booking records.

EyeWitness is a state-of-the-art SaaS application developed by MaiVERIC and hosted on Microsoft's Azure Government Cloud. It lawfully and securely ingests booking records in the possession of public safety agencies and uses artificial intelligence algorithms to create machine-searchable known offender archives (KnOAHs). The application allows authorized analysts and investigators to compare crime scene evidence, such as field suspect faces recorded by surveillance cameras, with the indexed KnOAH records to help determine if the evidence found has been identified/booked before. When likely matches are found, users can use the information on the booking records to expedite their investigations. When no matches are found, they have the ability to create new EyeWitness records that track unidentified evidence linked to multiple investigations. EyeWitness also allows users to create photo lineups of potential suspects within minutes.

The deployment of EyeWitness within a single public safety agency can expedite investigations and improve the agency's clearance rates<sup>1</sup>. Its deployment across several agencies allows for the secure sharing of known-offender and evidence-of-interest datasets, significantly increasing the effectiveness of analysts and investigators across agencies.

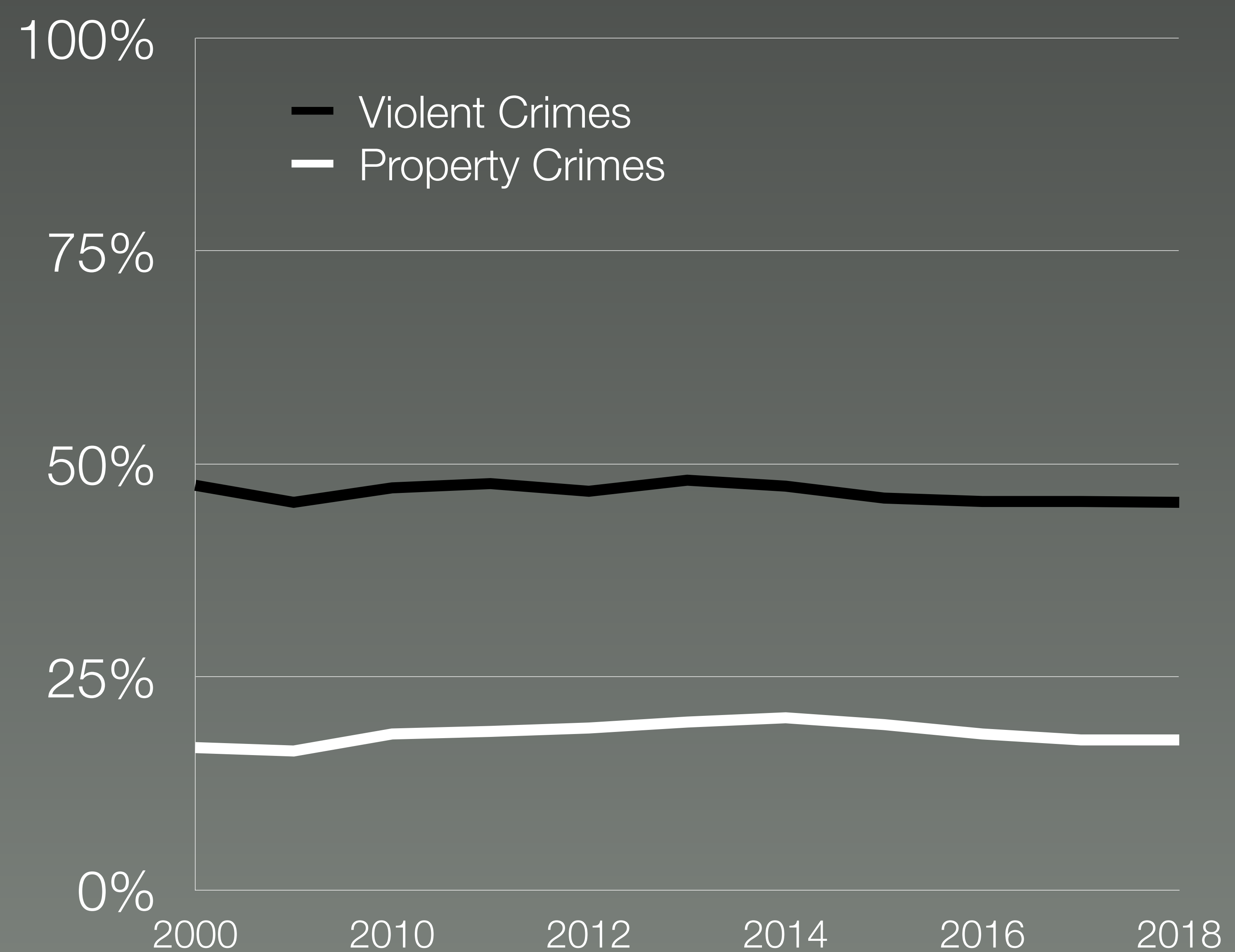


# Because data is growing exponentially, yet clearance rates remain unchanged.

Notwithstanding the increasing volumes of data available to public safety agencies, the percentage of crimes that are successfully solved has not improved in 20 years. Since 2000, the clearance rates<sup>1</sup> reported by the FBI have remained below 50% for violent crimes and under 20% for property crimes.

Police departments would like to solve all crimes. Still, to this day, they don't have the human resources to process the mounting amounts of evidence nor the means to compare such evidence against millions of known offender records generated over decades. Many agencies also lack the resources and support required to deploy advanced technical solutions.

## US Crime Clearance Rates



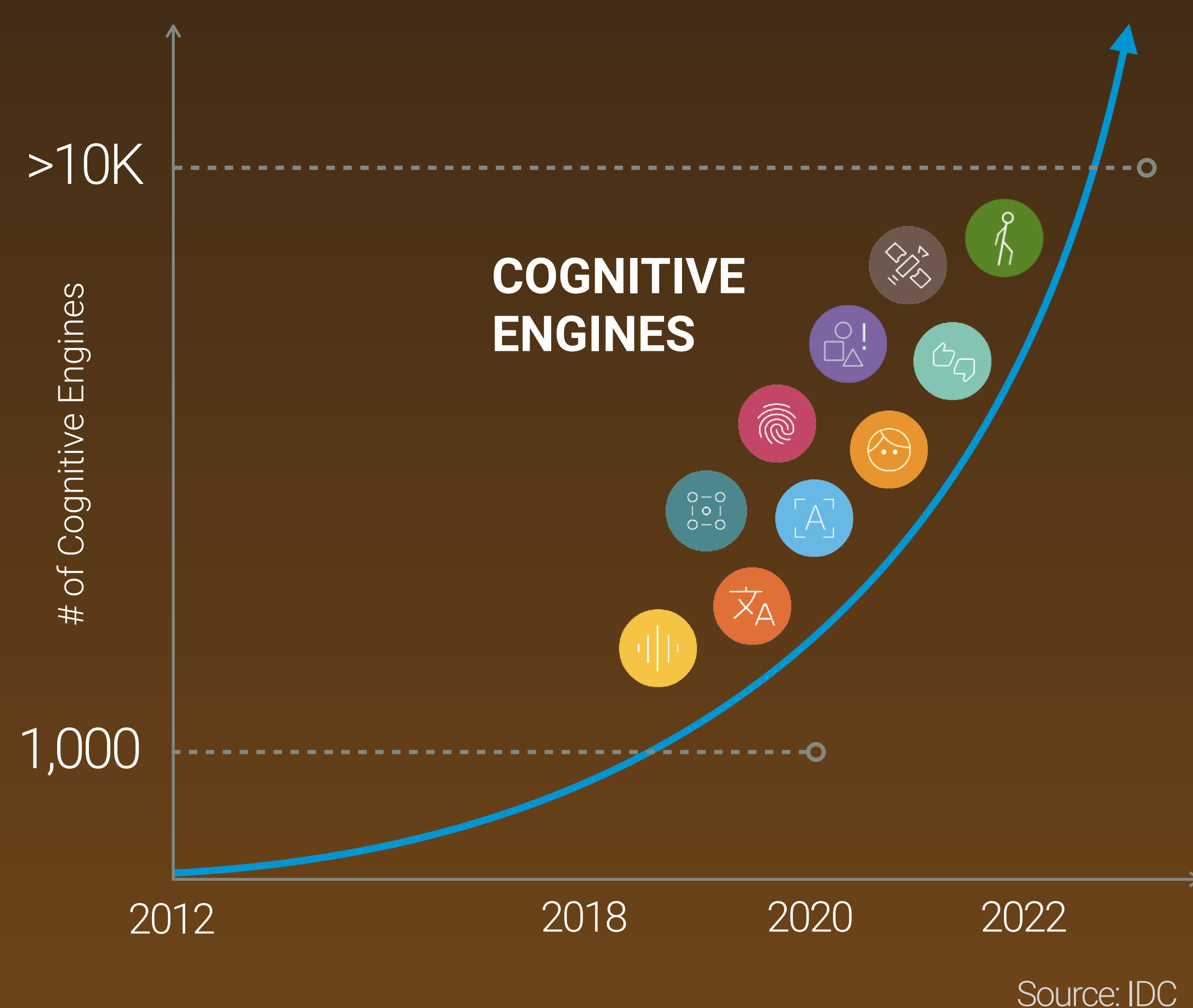
<sup>1</sup> Clearance Rate Source: FBI, <https://bit.ly/2OWDs3R>



EyeWitness



# The Solution: Responsible **ai**




- Face Recognition
- Object & Scene Detection
- Transcription
- Translation
- OCR
- Gait Analysis
- Sentiment Analysis
- Geo-Location

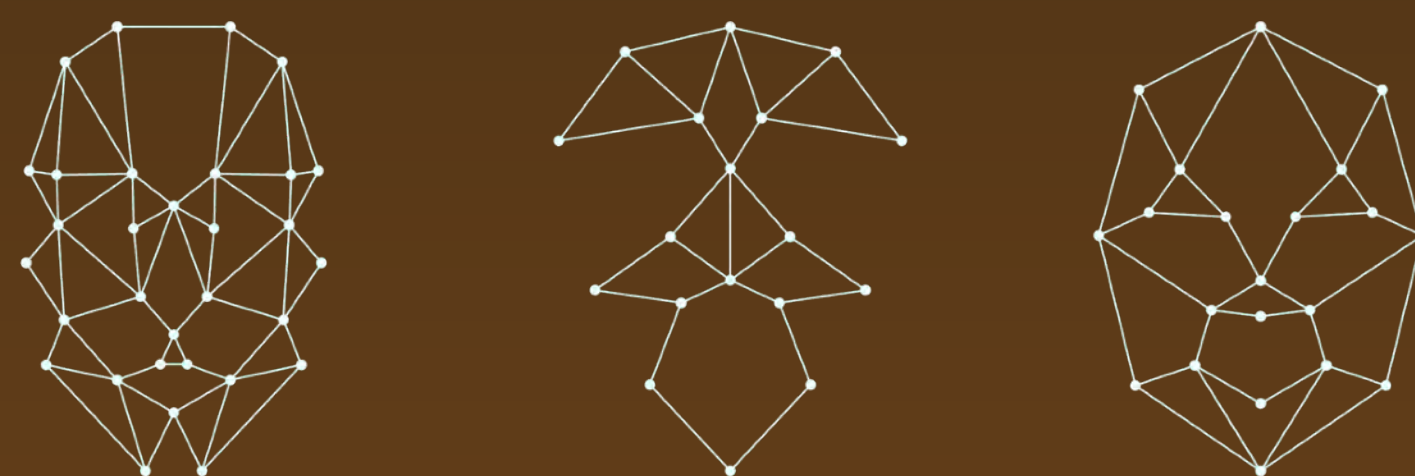
Trained software algorithms, known as cognitive engines, can today quickly and accurately compare faces, vehicles, license plates and other objects of interest recorded by security cameras against records contained in lawfully compiled reference datasets. Cognitive engines can also recognize and transcribe human speech, infer sentiment, and analyze people's walk, among an increasing number of skills.


Through reinforcement learning techniques, algorithms can also be trained to recognize complex patterns on combined structured and unstructured datasets to flag suspicious activity and suggest preventive measures in ways beyond what human brains alone are capable of.

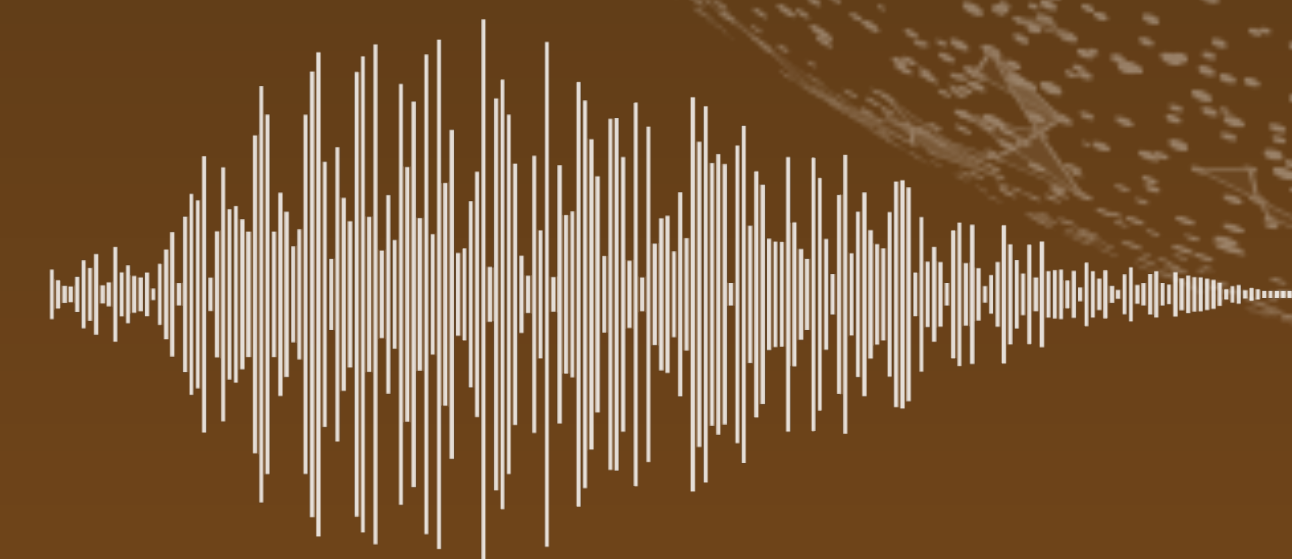


# Identification engines:

 **Face Recognition:** algorithms trained to identify individuals by analyzing patterns based on their facial textures and shapes and matching them to unique records on known person databases.

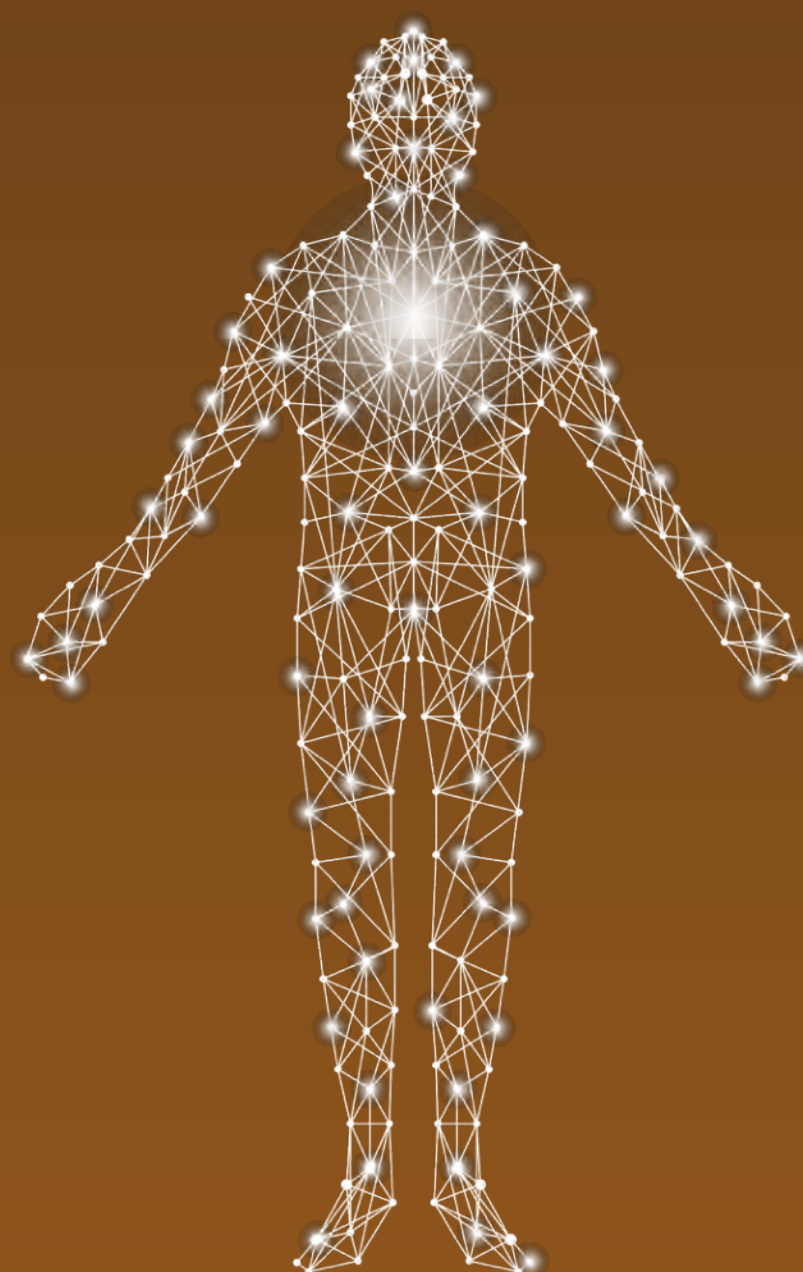



 **Natural Language Processing (NLP):** Algorithms trained to identify human speech and then transcribe spoken words into searchable text. NLP's natural progression consists on identifying individuals by analyzing voice signatures and matching them to unique records on reference datasets.



## Unique Binary Records:

010001001001011101010101011  
111001010101111010101011111  
010000010101010100101011101  
010111010101001010101010101



 **Gait Analysis:** algorithms trained to identify individuals by analyzing patterns based on their skeletal structure while at rest and in motion and matching them to unique records on known person databases.


**Other:** The scope and techniques used by identification engines is evolving fast. Some engines, for example, can now identify people by their tattoos, by their infrared heat signatures, and even by their unique heartbeats as measured by laser based scans.

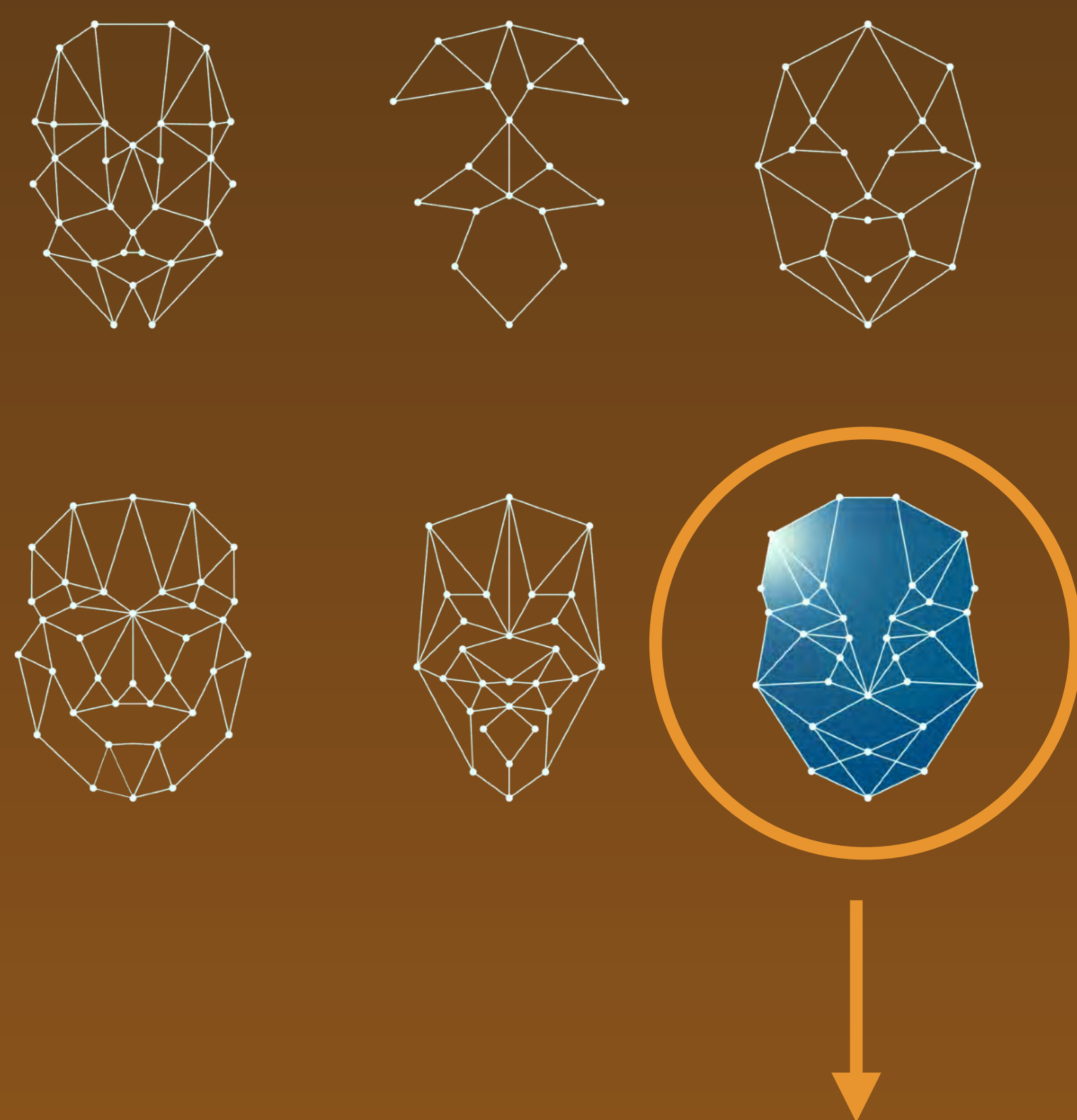


**EyeWitness**



# We rely on face recognition, as a first step.

 **Face Recognition:** algorithms trained to identify individuals by analyzing patterns based on their facial textures and shapes and matching them to unique records on known person databases.



Unique Binary Record:  
010001001001011101010101011

To power EyeWitness, MaiVERIC relies on best-of-breed face recognition algorithms from vendors that meet specific performance and security requirements. The use of these algorithms is a powerful first step and represents a quantum leap in the capabilities of public safety agencies to quickly generate accurate leads.



# Under the supervision of subject matter experts.



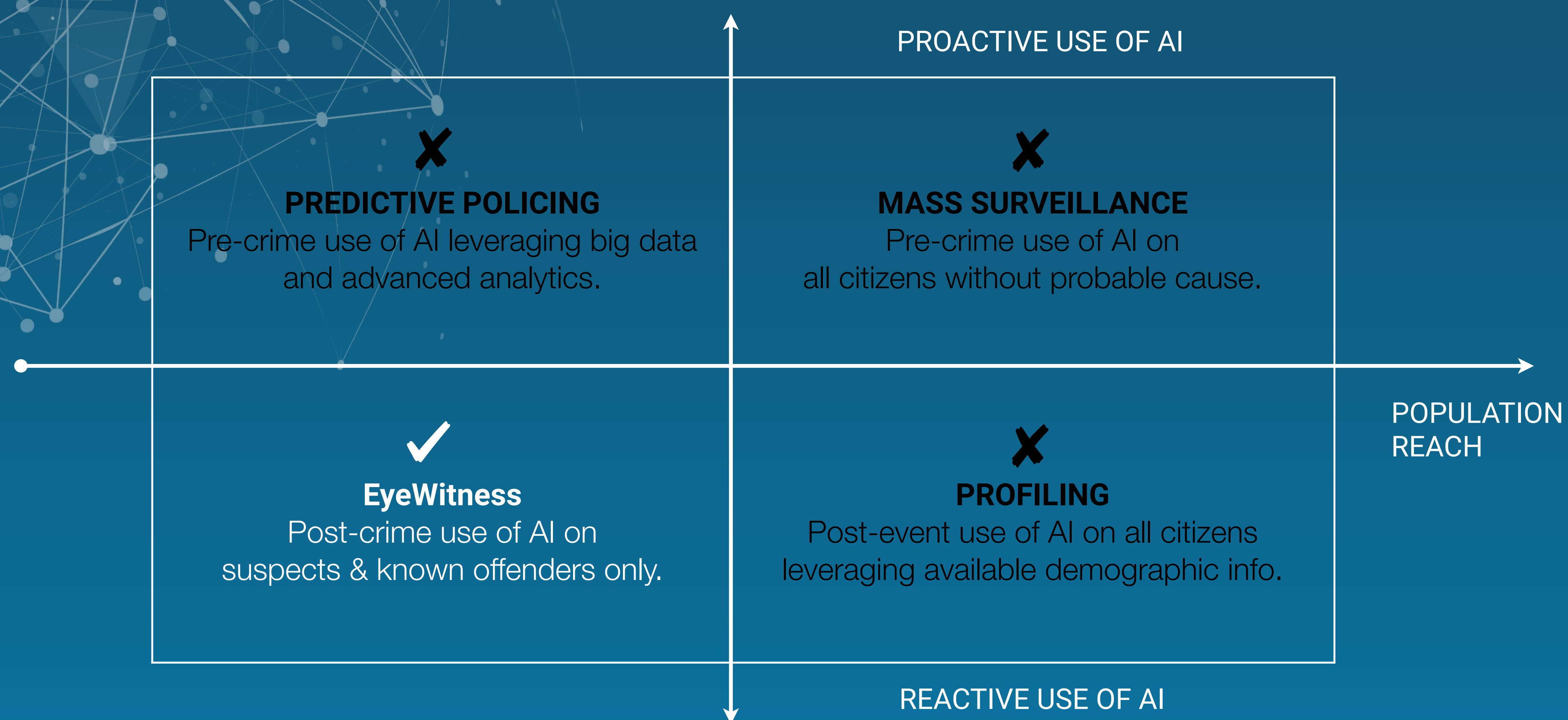
MaiVERIC's applications remove many of today's human-based constraints. Our solutions have virtually boundless memory and compute capabilities, are unbiased, uncompromised, and operate uninterrupted around the clock.

Responsible AI-based systems, however, are not intended to replace human supervision nor fully automate decision-making processes. So, regardless of confidence scores, at MaiVERIC we rely on your input, as subject matter experts, for all final decisions.





# We comply with California law.



PROACTIVE APPS: Applications that ingest and process any and all available data feeds, without the need of a triggering event.  
REACTIVE APPS: Applications that only use data/evidence from designated sources after a crime has been reported.

EyeWitness complies with AB-1215<sup>2</sup>. Our applications limit the use of face recognition algorithms to crime scene investigations where law enforcement agencies not only have the right, but also the obligation to gather evidence and compare suspect faces against known offender records. What MaiVERIC does is greatly expedite a process that already takes place. MaiVERIC has the potential to become one of the few companies that over the next 3 years will successfully deploy AI-based solutions for law enforcement within the State of California.

<sup>2</sup> CALIFORNIA ASSEMBLY BILL 1215

AB-1215 Law enforcement: facial recognition and other biometric surveillance.  
Introduced by Assembly Member Ting on 2/21/2019 and passed on 9/12/2019  
[http://leginfo.legislature.ca.gov/faces/billTextClient.xhtml?bill\\_id=201920200AB1215](http://leginfo.legislature.ca.gov/faces/billTextClient.xhtml?bill_id=201920200AB1215)

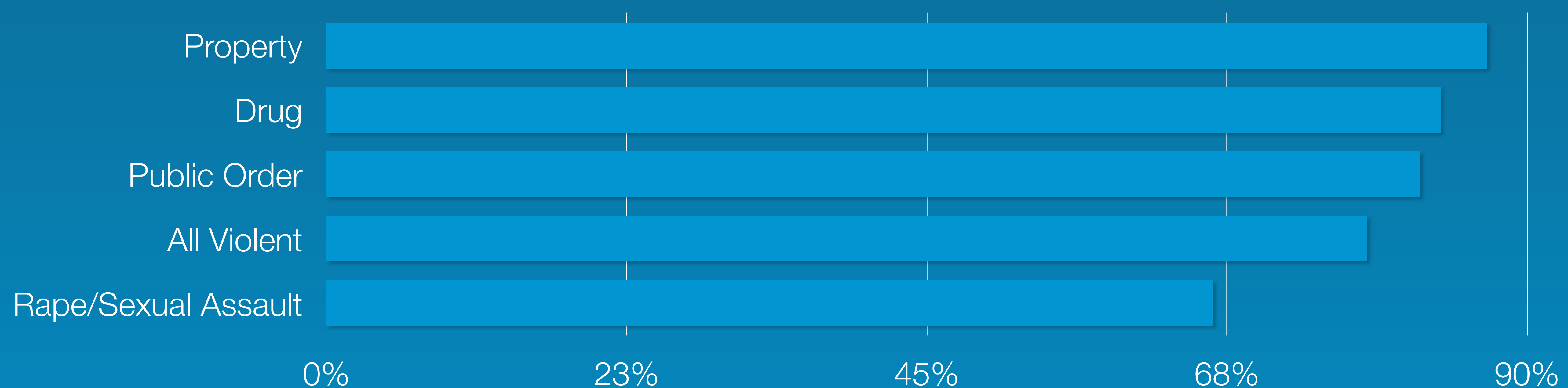


# Empowering you to fully leverage your own data.

Given the country's recidivism rates, we've found that giving agencies the ability to rapidly compare suspect photos against the potentially millions of booking photos they already have is a lawful and effective way to generate leads.

## 9-Year Recidivism Rates by Offense Category

Percent rearrested for any offense within 9 years from release from prison.



Source: Bureau of Justice Statistics, 2019.



# EyeWitness is built to scale, and to securely share booking records among participating agencies.

Microsoft Azure  
Gov Cloud



Kubernetes Orchestration  
Container Architecture (Docker)

HTML5 / Javascript  
RoR  
Azure Database for PostgreSQL  
Linux Server Distro  
OPEN SOURCE BUILDING BLOCKS

- CJIS Compliant
- Encrypted data, in motion and at rest
- Elastic compute
- Tiered storage

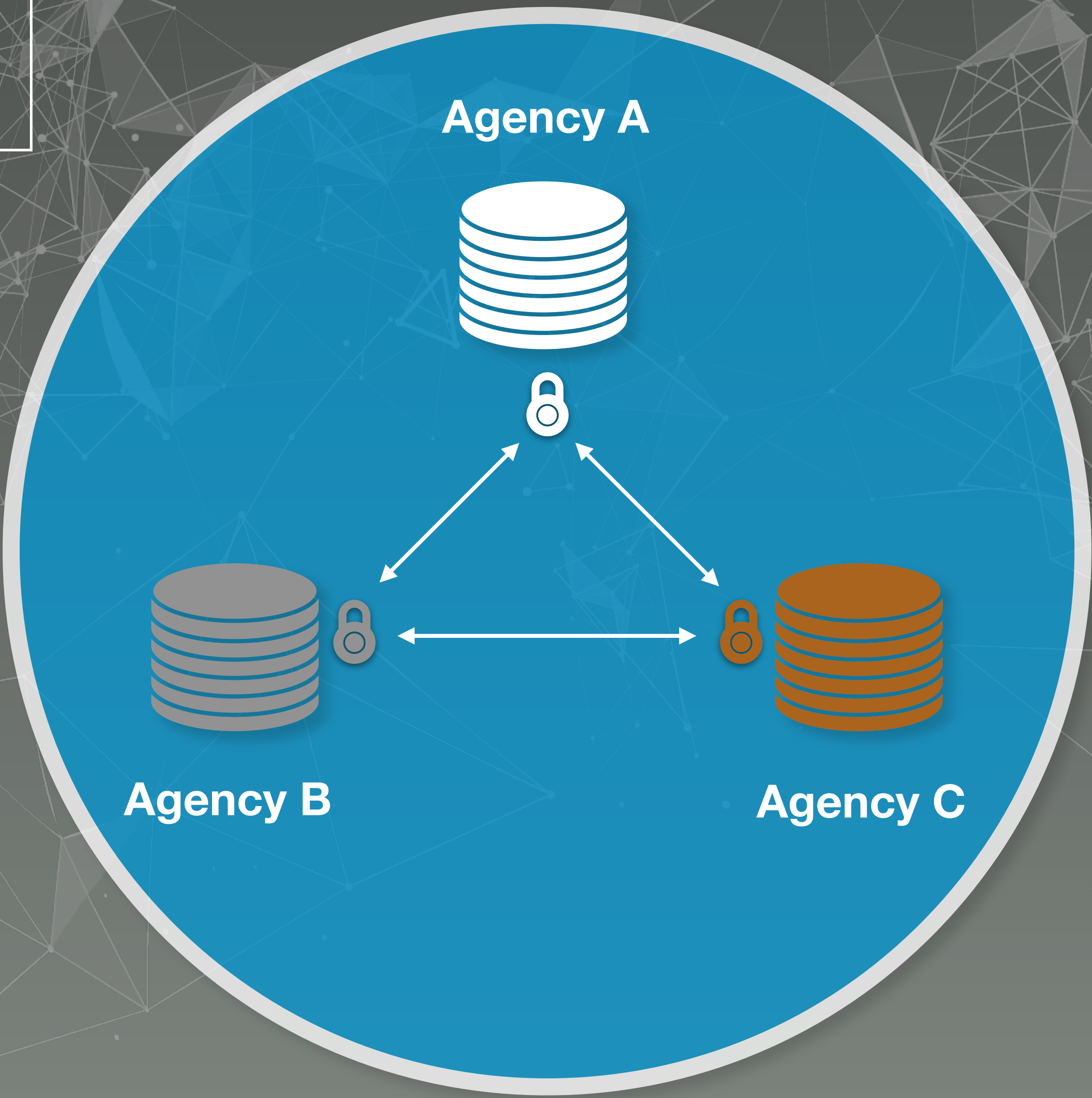
Web Client(s)

EyeWitness API

Encrypted Storage E1 E2 En

Secured Ingestion

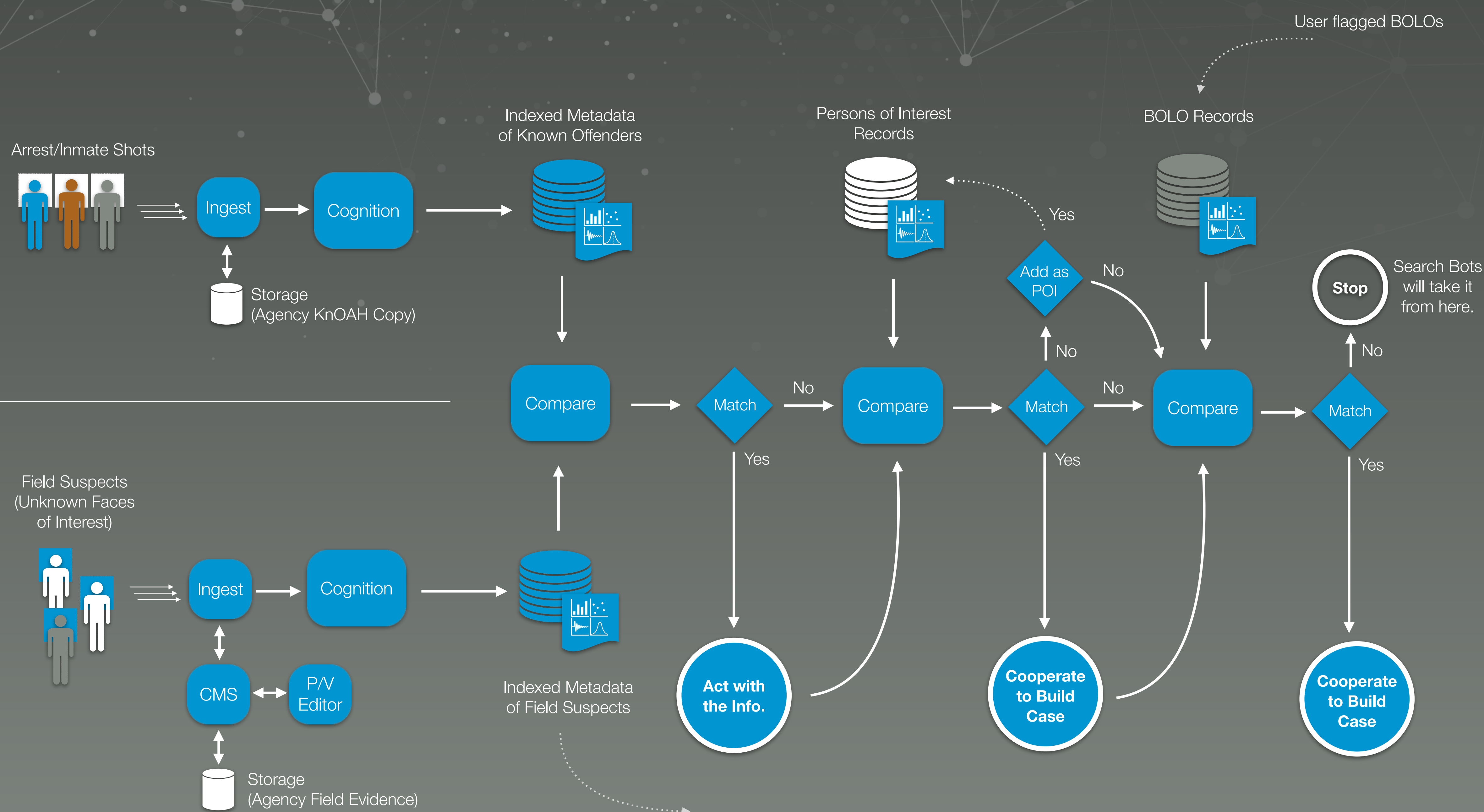
ENGINE ECOSYSTEM





# We offer a simple, yet powerful workflow.

We first index millions of lawfully compiled known offender records.



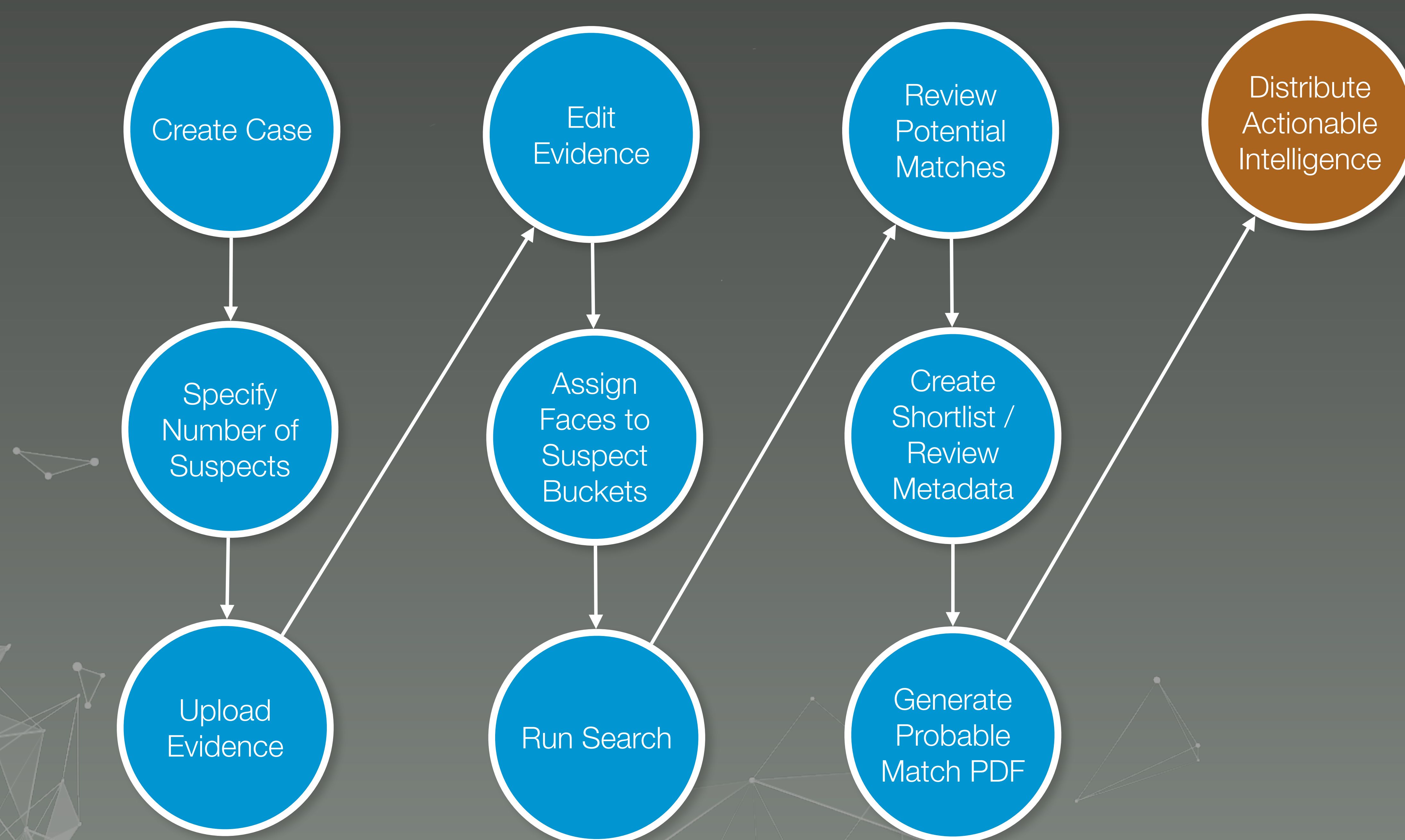
And then process field suspect photos obtained at crime scenes.



EyeWitness



# Our identification process, from ingestion to intelligence report, takes just minutes.

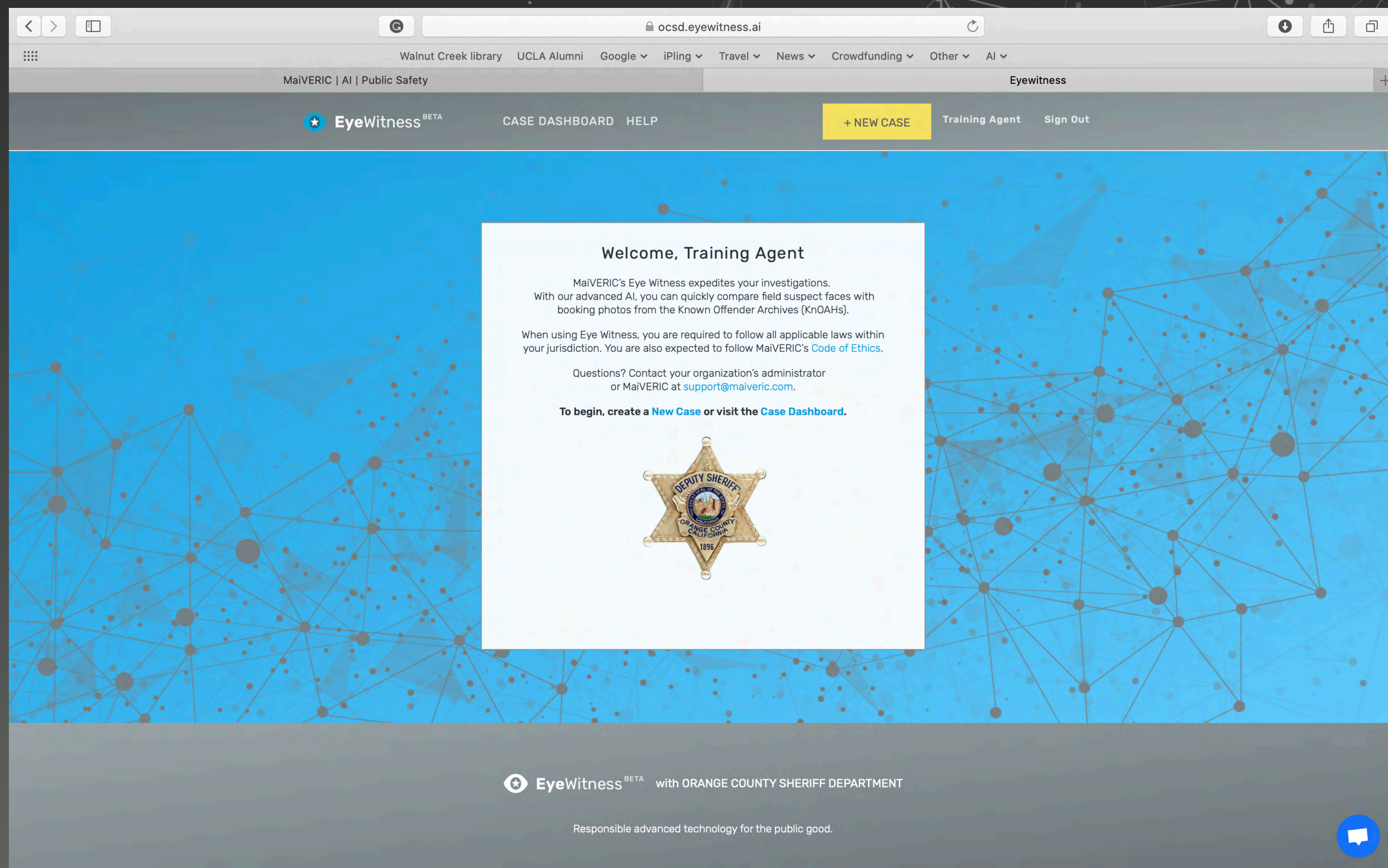


**EyeWitness**



WEB CLIENT

12



Give us a try.

contact@maiveric.com

We can onboard your agency, index your records, and train your staff within 2 weeks.



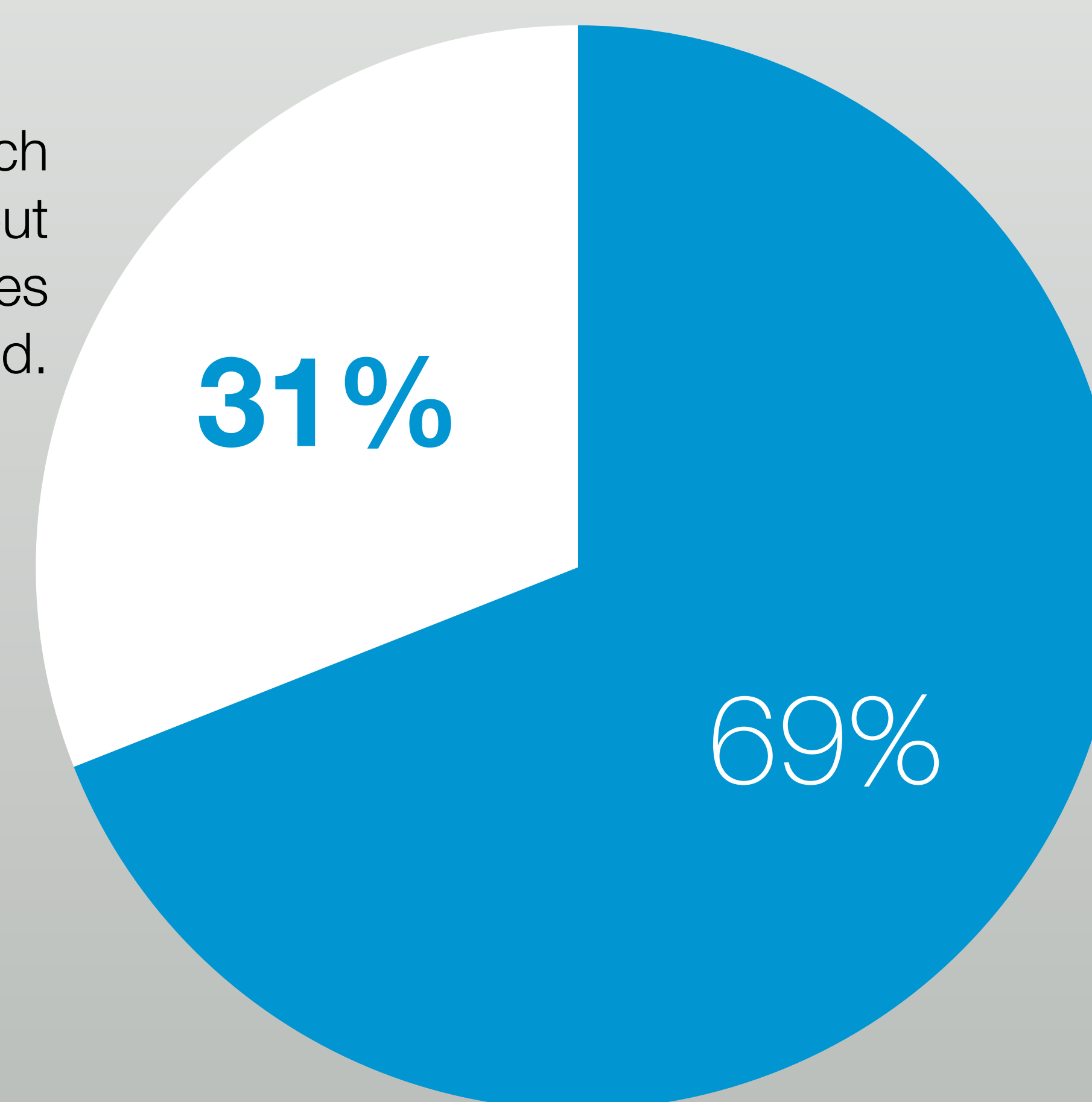


# Orange County Pilot Results

<b>PARTICIPATING AGENCIES</b>	10
<b>CRIME ANALYSTS ONBOARDED</b>	50
<b>BOOKING RECORDS INDEXED</b>	1,372,128
<b>FIELD SUSPECTS UPLOADED</b>	1,114
<b>CASES CREATED</b>	583
<b>MATCH REPORTS GENERATED</b>	176
<b>CASE MATCH RATE</b>	30%

CASE SUCCESS RATIO

172 suspect match reports generated out of 562 total cases entered.



## 3 REPORTING PERIOD

The statistics provided herein are based on EyeWitness usage from its launch on March 1st, 2020, up and until May 22nd, 2020.

## Leveraging AI, Responsibly, to Save Time and Money

OC analyst and investigators are generating multiple leads every day, saving their departments thousands of dollars while improving clearance rates.

## Force Multiplier

OC is effectively sharing booking records across county agencies, enabling searches across millions of photos in seconds and creating intelligence reports and photo lineups with one click.

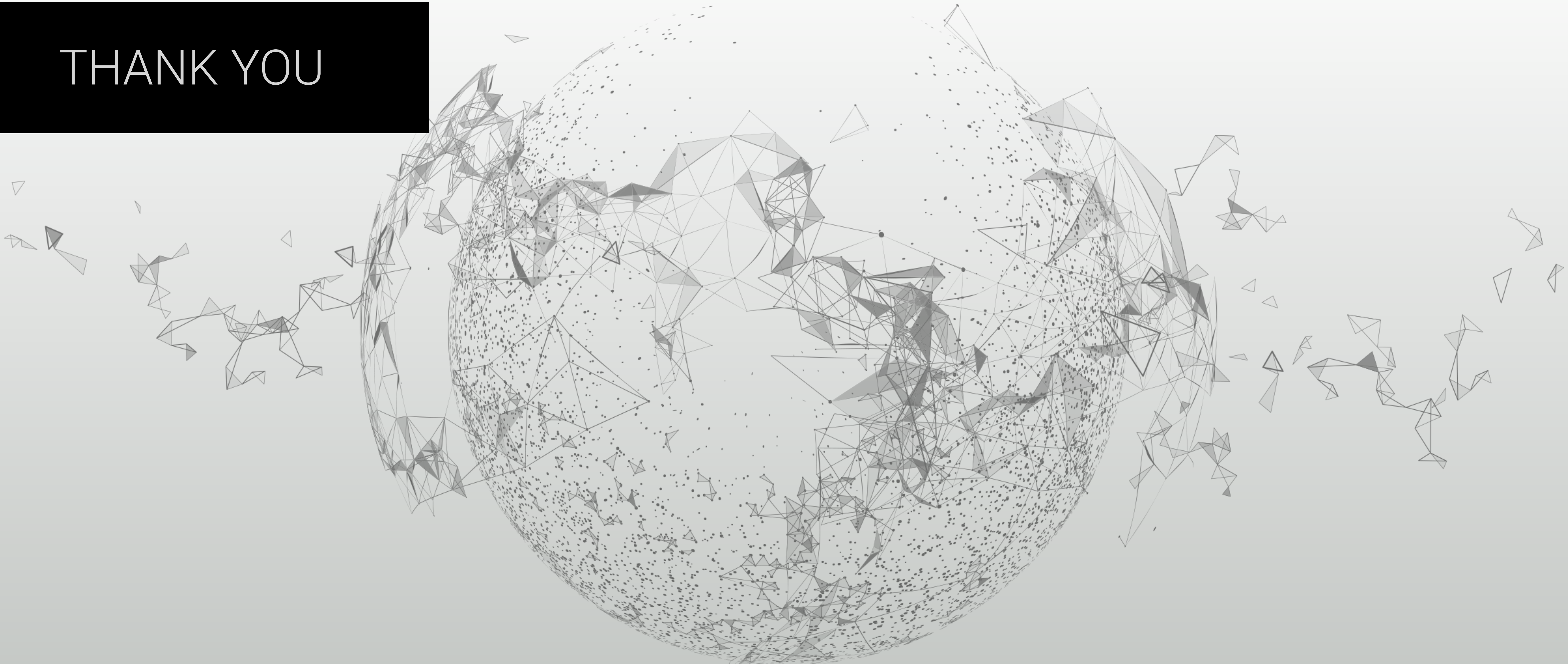
Get in touch to begin your pilot. [contact@maiveric.com](mailto:contact@maiveric.com)



**EyeWitness**



THANK YOU



WE ARE YOUR **ai**  
TEAM

MaiVERIC was founded for the sole purpose of leveraging artificial intelligence to develop applications in public safety that expedite investigations and assist agencies in the solving of more cases. Our narrow focus and independent nature allow us to tackle many of the obstacles required to develop effective solutions, including for example:

<p><b>PRIORITIZING</b></p> <p>Prioritizing long-standing police workflows and procedures throughout the design and development stages of applications.</p>	<p><b>MEETING REQUIREMENTS</b></p> <p>Meeting data security requirements (CJIS) under cloud &amp; local deployments according to agency needs.</p>
<p><b>COMPLYING</b></p> <p>Complying with applicable legal frameworks, including citizen privacy rights across countries and jurisdictions.</p>	<p><b>RIGHT PRICING</b></p> <p>Offering pricing plans that fit within the typical budget constrains of mid-size public safety agencies.</p>

