



LET DANYS — KEYNOTE

# Beyond the Classroom: How Virtual Reality is Revolutionizing De-Escalation and Soft Skills Training for Law Enforcement

*Virtual Reality, Augmented Reality, and Agentic AI for New York State Law Enforcement*

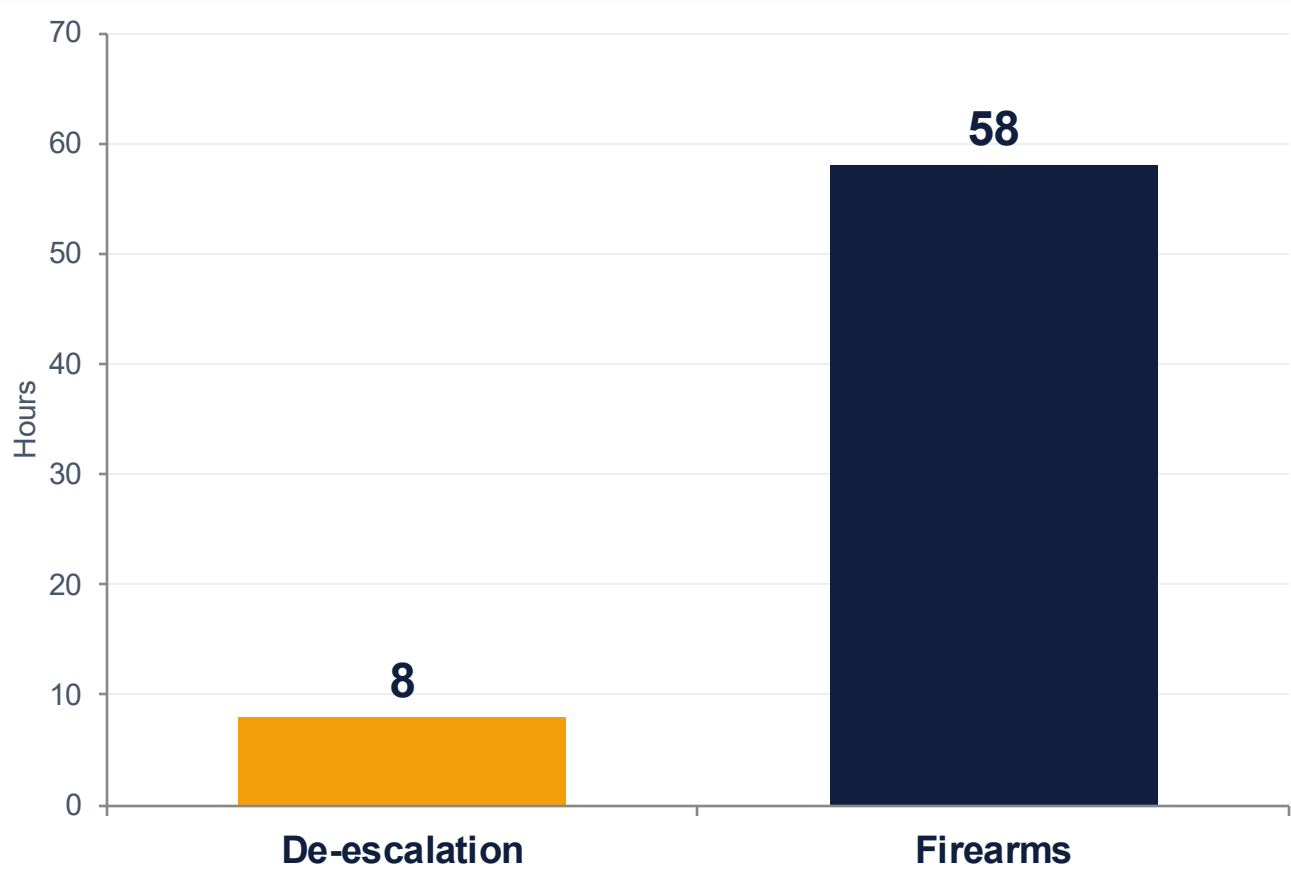
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Law Enforcement Training Directors Association of New York State

30-minute briefing | Q&A to follow

# The training imbalance we all know

US police academy averages — Police Executive Research Forum



**45**  
WORDS

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*Research shows the first 45 words an officer speaks often determine whether an encounter escalates or resolves peacefully.*

*We ask officers to verbally de-escalate life-and-death encounters with a fraction of the training we give them on use of force.*

# What training directors are being asked to deliver

*More content, more scrutiny, same calendars*



## Expanding curriculum

Mental health response, autism-spectrum awareness, cultural competency, crisis intervention, DV response, procedural justice — all required, all squeezed into the same hours.



## Tightening budgets

Role-players, ammunition, CEW cartridges, venue rental, travel, instructor overtime. Every line item is contested. Every training day costs more than last year.



## Heightened accountability

Every encounter is recorded. Every use-of-force is reviewed. Officers need consistent, documented training — and we need data to show it actually changes behavior.

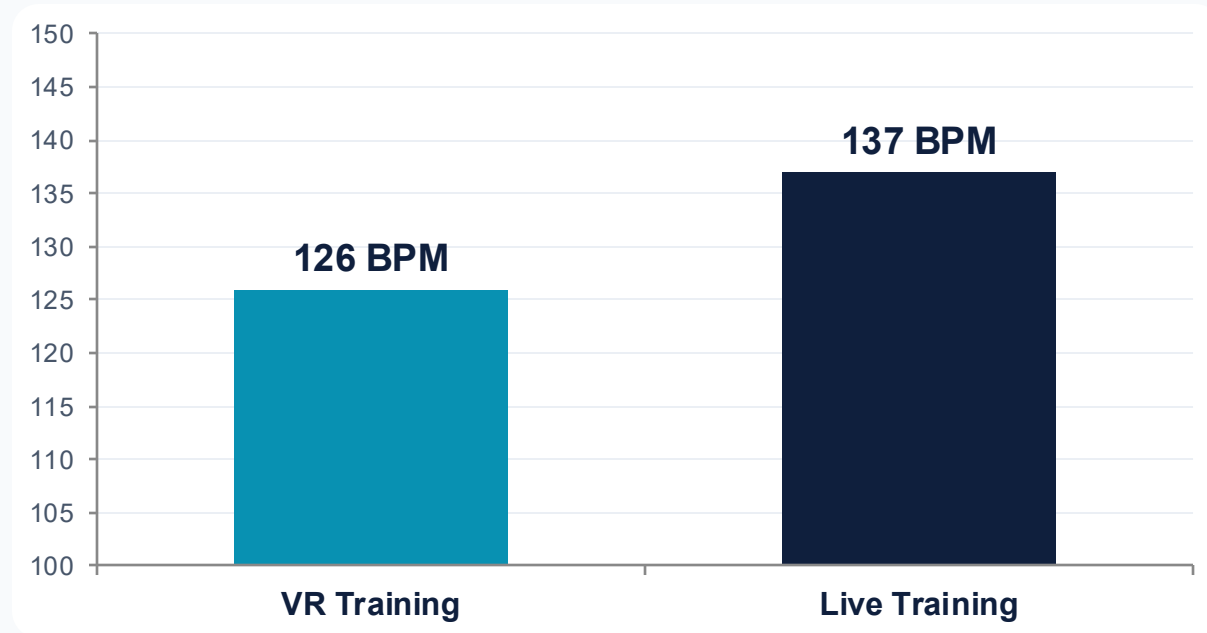
***VR and agentic AI close that gap — not by replacing live training, but by adding a repeatable, measurable layer at scale.***

# VR produces real physiological stress

*When the body believes the threat is real, the brain encodes the learning the same way it would in the field.*

## Maximum heart rate in scenario-based training

*Vrije Universiteit Amsterdam — paired-samples study, n = 54*



### Key research findings

#### Mental effort invested

Significantly higher in VR than in live training ( $p < .001$ ) — officers are doing real cognitive work, not going through motions.

#### Stress response

VR active-shooter drills produce elevated heart rate and physiological stress markers comparable to real encounters.

#### Skill transfer

A 2023 peer-reviewed study found VR and live-action de-escalation training produced comparable improvements in conflict resolution.

# Empathy that traditional training can't deliver



57%

of officers said VR taught them new techniques to improve performance

*Florida Atlantic University, 2024 · Schizophrenic psychosis encounter simulation · Published in Criminal Behavior and Mental Health*

## Why this matters

Officers reported moderate-to-high immersion in scenarios with virtual individuals experiencing mental health crises.

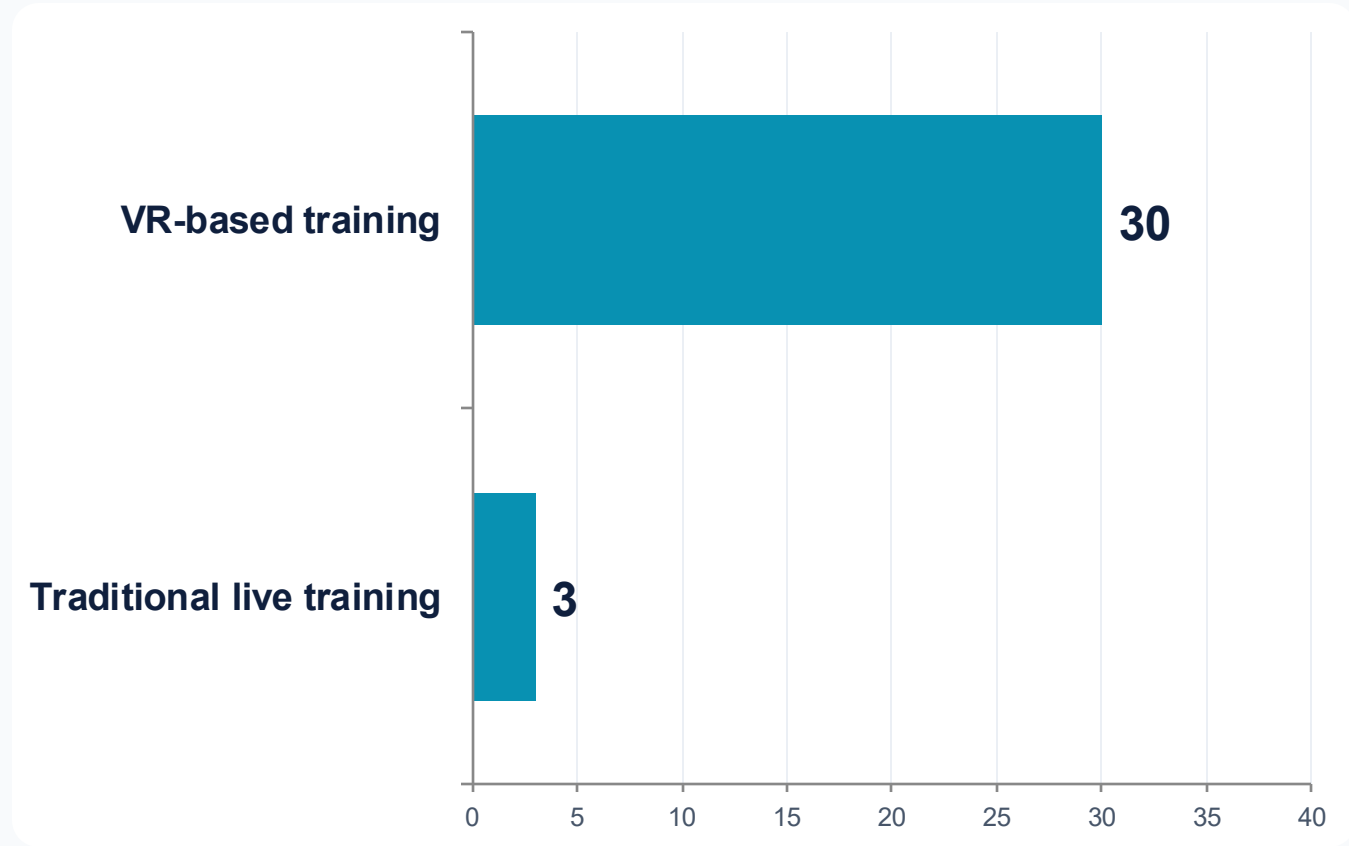
### **Brief disorientation in VR correlated with HIGHER empathy responses**

— putting officers in the citizen's perspective is a feature, not a bug.

VR also reduces implicit bias toward mental illness more effectively than traditional methods, according to recent research published by the Cambridge Industrial and Organizational Psychology journal.

# Reps build muscle memory. VR makes reps possible.

Reps per officer per scenario, per training day



**THE OUTCOME**

# 48%

reduction in use of force during simulated encounters after VR-based decision-making training

*Arizona State University study*

**81% of officers in industry surveys say VR better prepared them for real-life encounters.**

# Rare-event training: from zero reps to fifty

*High-stakes encounters most officers will see only a handful of times in a career — but must handle perfectly.*



## Mental health crisis

Schizophrenic break, suicidal subject, command hallucinations



## Autism-spectrum encounter

Non-compliance from sensory overload, not hostility



## Alzheimer's & dementia

Lost, confused, or combative seniors needing patient handling



## Hostage / barricade

Negotiation, perimeter discipline, multi-officer coordination



## Active shooter

School, workplace, transit — practiced in digital twins of real sites



## Limited English proficiency

Cross-cultural communication, interpreter coordination, de-escalation through tone

***Most officers go their entire career without realistic reps in these scenarios. VR makes the encounter the officer's fiftieth — not their first.***

# The scenario that fights back

*Agentic AI replaces branching scripts with autonomous virtual characters that perceive, reason, remember, and respond in real time.*



## Dynamic conversations

Officers speak. AI characters listen, interpret intent and tone, and respond with matching facial expression, vocal inflection, and body language. No scripts.



## Memory & continuity

Characters track what the officer said earlier, remember past de-escalation attempts, and shift trust levels. The conversation has continuity.



## Adaptive difficulty

If the officer is de-escalating well, the character calms. Struggling? The character escalates. The system targets each officer's actual weak spots.



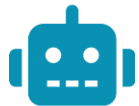
## Emotional modeling

An agent rules engine governs how characters respond to trust-building, perceived threat, and shifts in officer tone — producing organic, unscripted reactions.

*AI-assisted after-action review flags specific moments — "verbal commands became inaudible at 0:47" — extending instructor reach.*

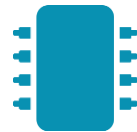
# Already in the field — not theoretical

*AI-driven training platforms currently deployed across US law enforcement agencies*



## AXON VR — Verbal Skills Training

- Built around the "first 45 words" research
- AI-driven characters in unscripted dialogue
- Agent rules engine drives realistic, evolving responses
- Goal: 50% reduction in police-public gun deaths by 2033



## MILO VR — FAAC

- Bilingual AI conversations (English / Spanish)
- Adaptive memory across officer interactions
- Instructor-configurable character personas
- 30+ years of decision-based simulation expertise



## Operator XR / VirTra / V-Armed

- Free-roam VR with multi-officer scenarios
- Live instructor-controlled characters
- Used by NYPD for active shooter training
- Used by LAPD for crisis intervention

*Morehouse College + Google Jigsaw — VR anti-bias and de-escalation trainer purpose-built for law enforcement.*

# The cost math keeps surprising agencies

# UP TO 85%

*cost reduction vs. traditional scenario-based training, once amortized across officers and training hours*

## Traditional cost line items

- Role-player coordination & compensation
- Tactical facility / venue rental
- Safety officers, medics on standby
- Sim ammunition, CEW cartridges, pepper-spray inerts
- Travel & per diem to regional academies
- Instructor setup, reset & teardown time

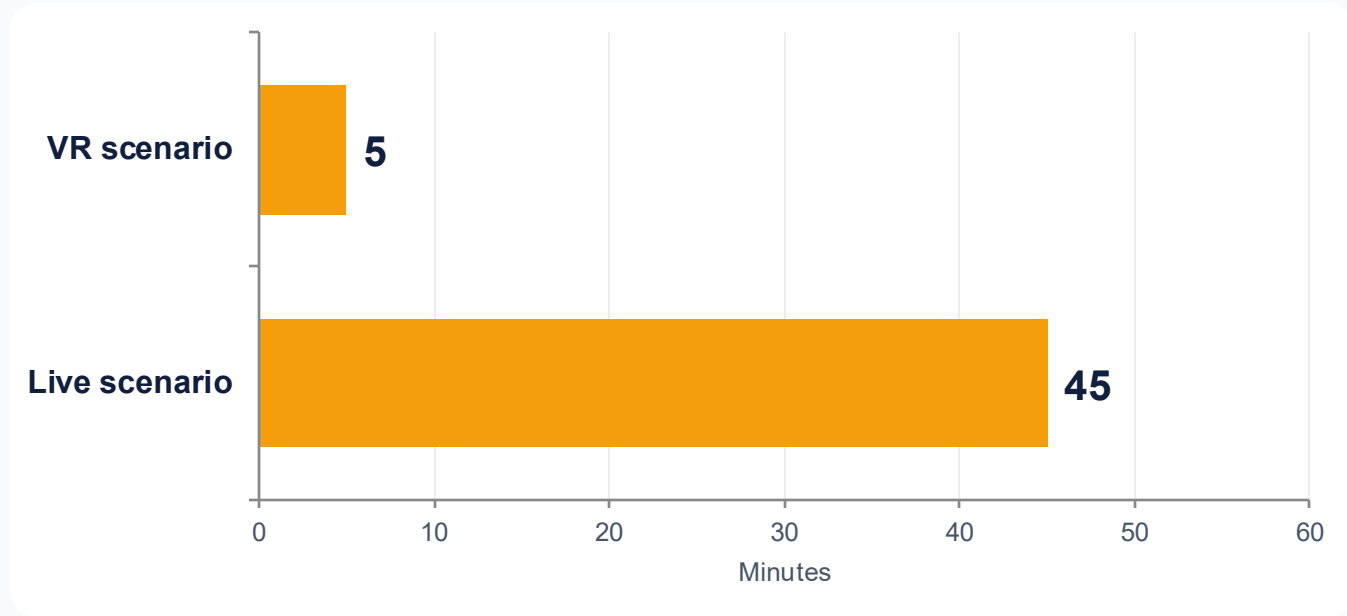
## Break-even insight




Some portable VR systems reach cost-neutrality by saving just 2–3 CEW training cartridges per officer per year. For a New York agency of any size, the math closes quickly — before counting role-player or facility savings.

*90% of agencies say VR improves training safety, reducing accidents and injury claims (DOJ survey).*

# Speed-to-training: turning dead time into reps

Time from scenario start to officer engaged



- 
**Roll-call ready**  
 20–30 minute sessions fit between calls or before shift
- 
**Push-to-deploy updates**  
 New DCJS guidance reaches every officer at once
- 
**No weather delays**  
 Training runs on schedule regardless of conditions



## FEDERAL FUNDING IS ALREADY ALIGNED

Of \$334M in DOJ federal grants to law enforcement, nearly 15% — over \$43M — has been earmarked for de-escalation training. VR platforms qualify under COPS, Byrne JAG, and BJA crisis-intervention awards.

# Case study: NYPD

*Largest US municipal department, location-based VR for active shooter and crisis training*



## Active shooter response

- Partnered with V-Armed for free-roam VR scenarios
- Officers immersed in hostage and active-threat situations
- Multi-officer interaction with disruptive bystanders & threats
- Performance metrics on bullet trajectory, shot accuracy, & negotiation
- Scenarios based on past real-world incidents for transferable readiness



## Emotionally disturbed individuals

- Virtual apartment environments with interactive avatars
- Behaviors range across mental health states
- Officers practice de-escalation techniques in safe environment
- Demonstrated significant improvement in crisis-management skills vs. traditionally trained peers

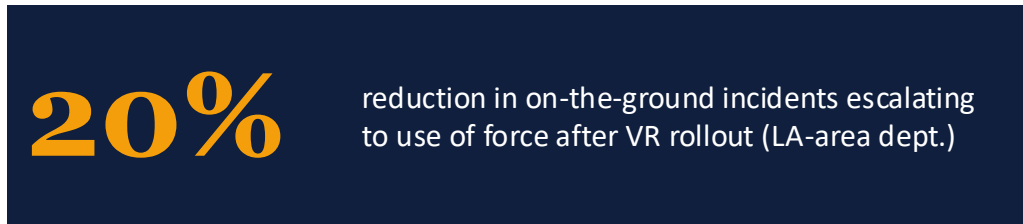
***If the model works at NYPD scale and complexity, it works for any New York agency.***

# Case studies: LAPD & Mt. Dora PD

Major-metro deployment and small-agency proof point



De-escalation & protest response



- VR simulations for active shooter & high-stress encounters
- Crisis intervention training credited with helping officers slow down and resolve incidents without force
- Correlated with measurable post-implementation drop in use-of-force incidents



Autism-spectrum encounter training

## Small-agency feasibility study

Published in *Frontiers in Virtual Reality* (2022)

- Officers randomly assigned to VR, video-only, or combined conditions
- Targeted a low-frequency, high-stakes population
- Demonstrated VR feasibility for departments without major-agency budgets
- **Model applicable to nearly every NY agency in this room**

Early-adopter agencies have reported use-of-force incidents dropping ~15% within 6 months of VR rollout.

# The numbers that matter, in one place

*Quick-reference card for follow-up conversations*

**8 vs 58**

academy hours: de-escalation vs firearms (PERF)

**45**

words that often determine encounter outcome

**48%**

reduction in simulated UoF after VR (ASU)

**81%**

of officers say VR better prepares them

**57%**

learned new techniques via VR (FAU study)

**90%**

of agencies say VR improves training safety (DOJ)

**85%**

potential cost reduction vs. traditional

**\$43M+**

DOJ federal funding earmarked for de-escalation

**20%**

drop in protest-escalation force (LA-area dept.)

**~15%**

UoF drop within 6 months of VR rollout (early adopters)

## THE CALL TO ACTION

# The New York opportunity

Four moves LETDANYS members can make in the next 12 months

**1**

## Pilot, don't wait

Run a 60–90 day pilot on a single skill area. Mental health crisis response is the highest-leverage starting point given New York's volume and scrutiny.

**2**

## Blended, not replacement

VR is a repetition layer on top of live training, firearms, DT, and classroom. It fills the gap where reps aren't otherwise available.

**3**

## Leverage the data

The long-term prize isn't the headset — it's the performance data. For the first time, we can measure de-escalation skill the way we measure firearms qualification.

**4**

## Collaborate across the state

LETDANYS is uniquely positioned to negotiate joint procurement, share scenario libraries, and build a New York-specific content library reflecting our communities and laws.

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*New York can lead. The infrastructure is here. The funding is aligned. The research is in.*



CLOSING THOUGHT

*We don't get to choose whether our officers will encounter mental health crises, autism-spectrum individuals, suicidal subjects, or high-ambiguity calls.*

***We only get to choose whether those encounters are the officer's first rep — or their fiftieth.***

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**Thank you.**

*Questions, demo requests, or pilot framework discussion welcome.*

# Q&A • Sources & resources

Peer-reviewed research and program references cited in this presentation



## Academic & peer-reviewed

- Lavoie et al., "Training police to de-escalate mental health crisis situations" — Policing: A Journal of Policy and Practice (2023)
- Kleygrewe et al., "Virtual reality training for police officers" — Vrije Universiteit Amsterdam
- Dario et al., FAU — Criminal Behavior and Mental Health (2024)
- Kent & Hughes, "Law enforcement training using simulation" — Frontiers in Virtual Reality (2022)
- Cambridge Industrial and Organizational Psychology — VR & racialized police violence (2023)
- Police Executive Research Forum — de-escalation training reports
- Arizona State University — use-of-force decision-making study



## Programs & platforms cited

- Axon VR — Verbal Skills Training (general availability 2025)
- MILO VR — FAAC, bilingual AI training platform
- Operator XR — OP-2 immersive training system
- VirTra — V-XR extended reality system
- V-Armed — NYPD active shooter, multi-officer free-roam VR
- Morehouse College + Google Jigsaw — anti-bias VR trainer
- U.S. Department of Justice — agency safety surveys & grant programs (COPS, Byrne JAG, BJA)