

A soldier in full combat gear, including a helmet and tactical vest, is shown from a side profile, aiming a rifle. The soldier is positioned behind a wooden structure, possibly a wall or barrier. The background is a grassy field under a clear sky, with a blurred figure of another person in the distance. The text is overlaid on the image.

Realistic Moving Target Training SVT WSD

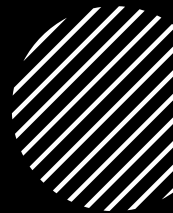
Leadtech.co

2023



“Simulation- Based Training in the U.S. Army

Fidelity and Training Effectiveness”



Rand study concluded that effective simulators are *psychologically* and *physically* realistic



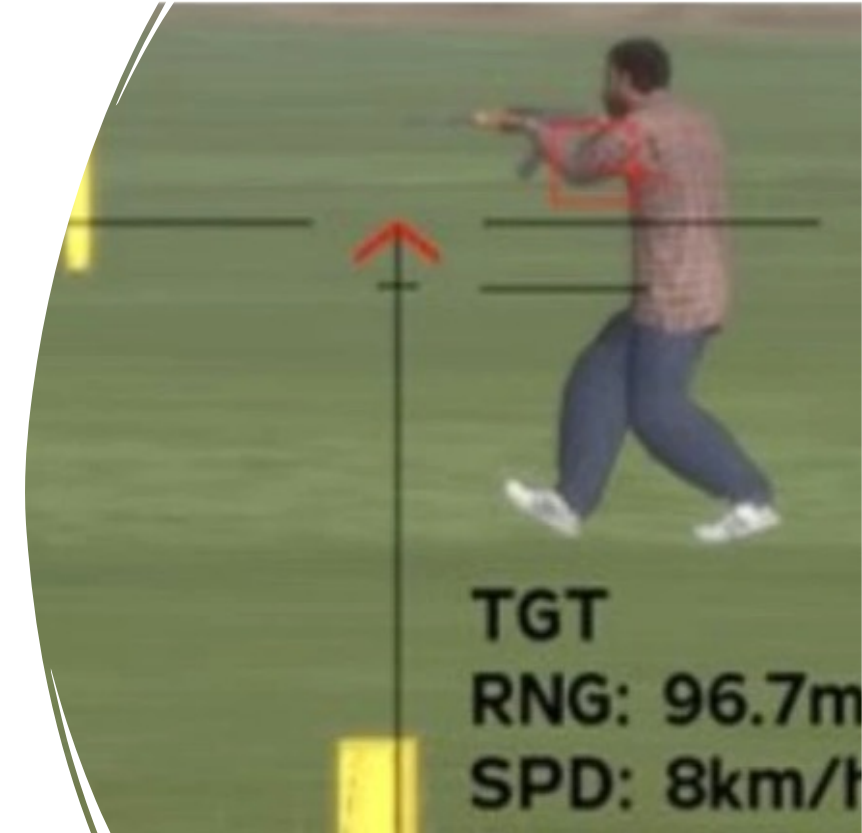
A marksmanship simulator should be realistic



A moving target at a range is a *physical simulation*

Canadian Simulator Study on Sideways Moving Targets

- Group trained with correct lead displayed **improved aim**
- **Lead-trained group used realistic targets**
- Group untrained on lead **showed no improvement** in aim
- Untrained group used front-facing silhouettes



“Moving-Target Intelligent Tutoring System for Marksmanship Training”

SVT WSD Specs All Silhouette Targets

Least realistic
target to
simulate movers



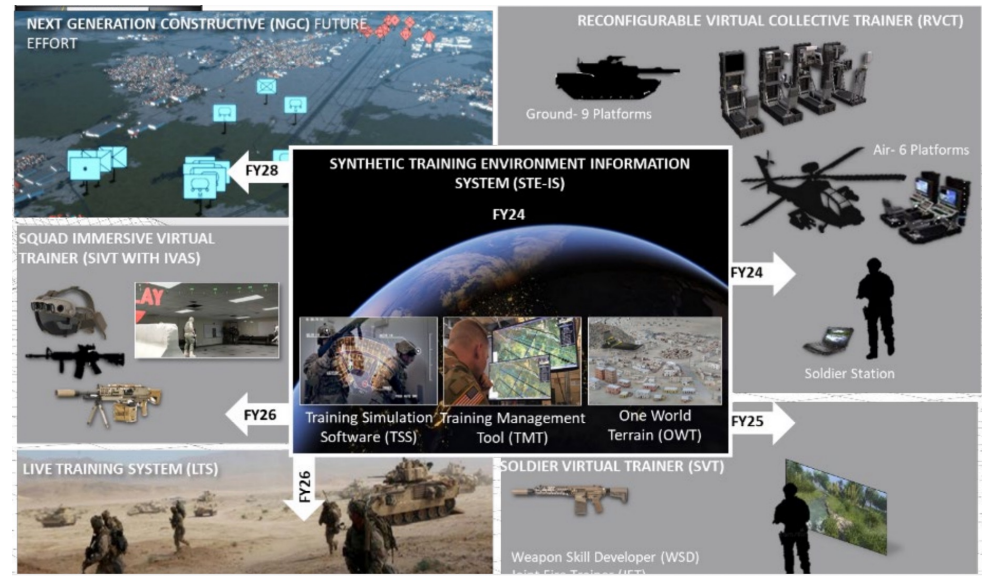
**Ignores PEO
STRI robotic
targets**

Misuse of Silhouettes as Moving Targets

- Silhouettes are unrealistic as sideways movers
- Silhouettes an inaccurate measurement of lead
- 80% of WSD leads are incorrect as silhouettes
- **Artifact of range operator status quo**
- **Inhibits uptake of robotic targets**
- **No future as sideways movers**



Nothing at TSIS about Simulating Paper Silhouettes



- How do we improve Live Training at U.S. Army home stations with simulations? (posts, camps and stations)
- Virtual Metaverse vs. Live Mixed Reality?

MISSION
Discover, Develop, and *Transition* Innovative Simulation and Training Technology to Maximize Soldier Effectiveness and Warfighter Readiness.

VISION
World Class Experts in the Science of Modeling, Simulation, and Training Enabling the Acquisition and Fielding of Effective Solutions for the Warfighter.

MAJOR STAKEHOLDERS

- Synthetic Training Environment Cross Functional Team (STE CFT)
- Program Executive Office Simulation Training & Instrumentation (PEO STRI)
- Combined Arms Center – Training (CAC-T)
- U.S. Army Medical Research & Development Command (USAMRDC)
- Defense Advanced Research Project Agency (DARPA)
- Army Modeling & Simulation Office (AMSO) and all 6 Army M&S Communities

FUNDING

- ~ \$52M Core Mission Funds (6.2 and 6.3)
- ~ \$50M Customer Funds

Virtual Humans | **Augmented Reality**

Live Training "on-Buffer" | **Medical Simulations**

Movers Evidenced Realistically in Simulator

- WSD contractor can display lead on **realistic targets**
- Commercially available solution
- Efficacy proven in Canadian DRDC study
- Rand Study compliant
- No change in hardware
- Change order to spec



Hitting a Moving Target is a Learned Skill

- Spatial lead is a learned skill **in most sports**
- Movers without lead require less practice
- The more the lead, the more the technique + practice

Active Configuration

Targets Speed

15 MPH

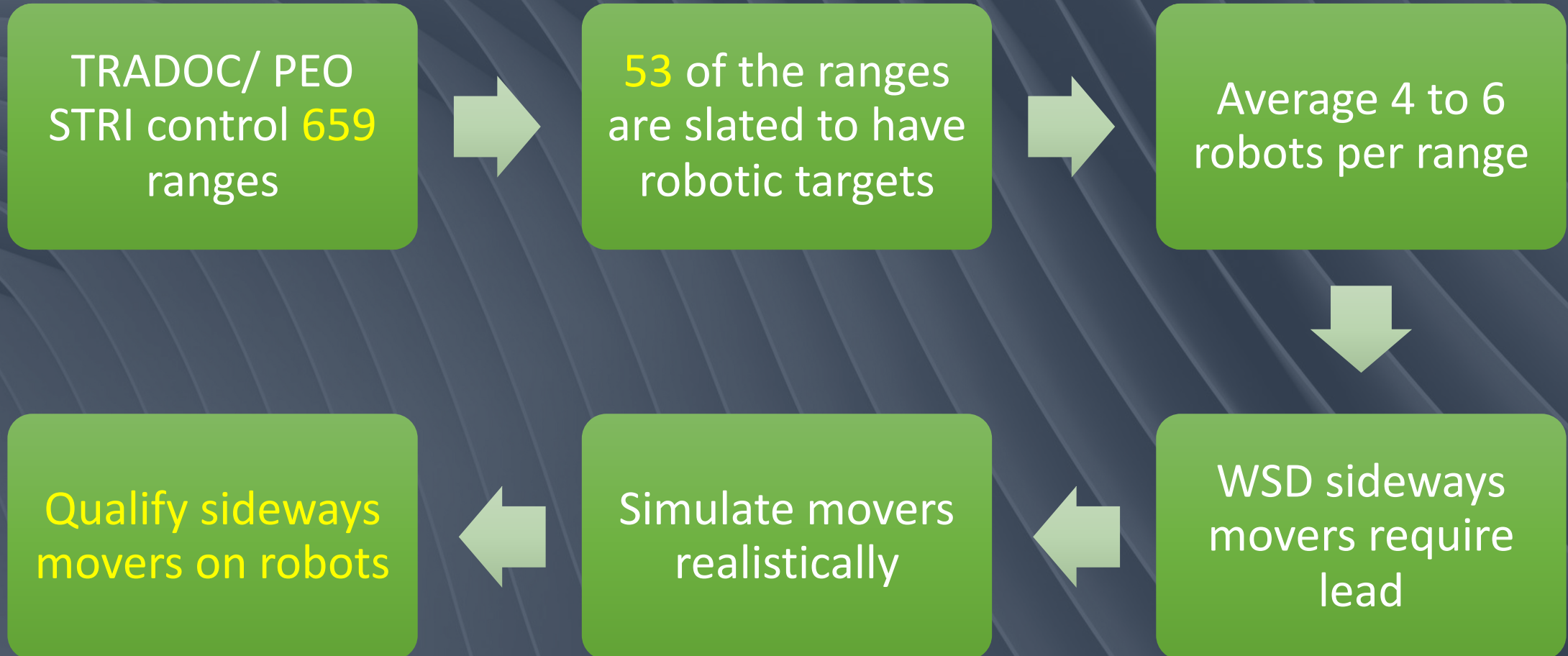
Fire Mode

Burst

Scope Zoom

4x Zoom

WSD Movers Qualified at Range



Use Robots to Qualify on Sideways Movers

- Robots are most effective *as sideways movers*
 - Orthogonal routes
 - Oblique routes
- Silhouettes can be used **where no lead is required**
 - Incoming routes
 - Outgoing routes
 - Stationary



SVT's Future Starts With WSD



Conclusions

- SVT can use best practices in WSD
- Contractor can display correct lead
- Contractor can display realistic targets
- Sideways movers qualified at range on robots
- TRADOC/ PEO STRI/STE best practices

An aerial photograph of a golf course under a dramatic, dark, stormy sky. The golf course features several green fairways, sand traps, and a clubhouse building. The surrounding landscape is a mix of trees and open fields. The sky is filled with heavy, dark clouds, with a small patch of lighter clouds on the left side.

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