DARKTRACE

Why Security Awareness Training is Broken

...and how to fix it

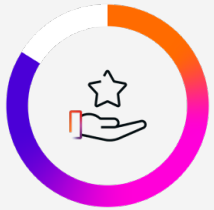
At a glance

Humans sit on the front line of organizational defense, yet the security awareness training (SAT) that employees receive is measured by completion rather than behavior change.

As a result, training doesn't translate to retention or real-world decision-making – it's a check-box exercise.

This eBook outlines a strategic shift from static, one-size-fits-all training to adaptive human defense: a feedback-loop approach that unifies user awareness and real-time protection.

By aligning coaching to live user behavior and measurable risk, organizations can strengthen resilience, protect productivity, and turn their workforce into a dynamic layer of defense.



84%of organizations measure SAT success through completion rates

(NIST Awareness Effectiveness Study, Forrester 2025)

<2% Improvement on failure rates after standard phishing training

UCSD (2025). Understanding the Efficacy of Phishing Training in Practice. Proceedings of the 2025 IEEE Symposium on Security and Privacy.

Why traditional security awareness training doesn't work

Why are we here?

If training worked, the fallout from behavior-related risk would be declining. **It isn't.**

Billions spent annually on security awareness
~$7B market and growing

Reported losses continue to skyrocket
average cost of a breach
$4.4M in 2025

AI-powered scams are accelerating
97% of organizations reporting AI-related security incidents

Phishing, social engineering, and human error remain top breach drivers
Human element involved in **68% of data breaches**

Why isn't it working?

01 IT'S DESIGNED TO CHECK A BOX

- **Annual or quarterly** sessions
- **Completion rates** = "success"
- **Optimized** for audit defensibility, not behavior change
- **Training data** never feeds back into security controls

02 IT DOESN'T REFLECT THE REALITY OF THREATS

- **Unrealistic**, "defanged" phishing simulations
- **Based** on threats already blocked by email filters
- **No exposure** to personalized, AI-driven, cross-channel attacks

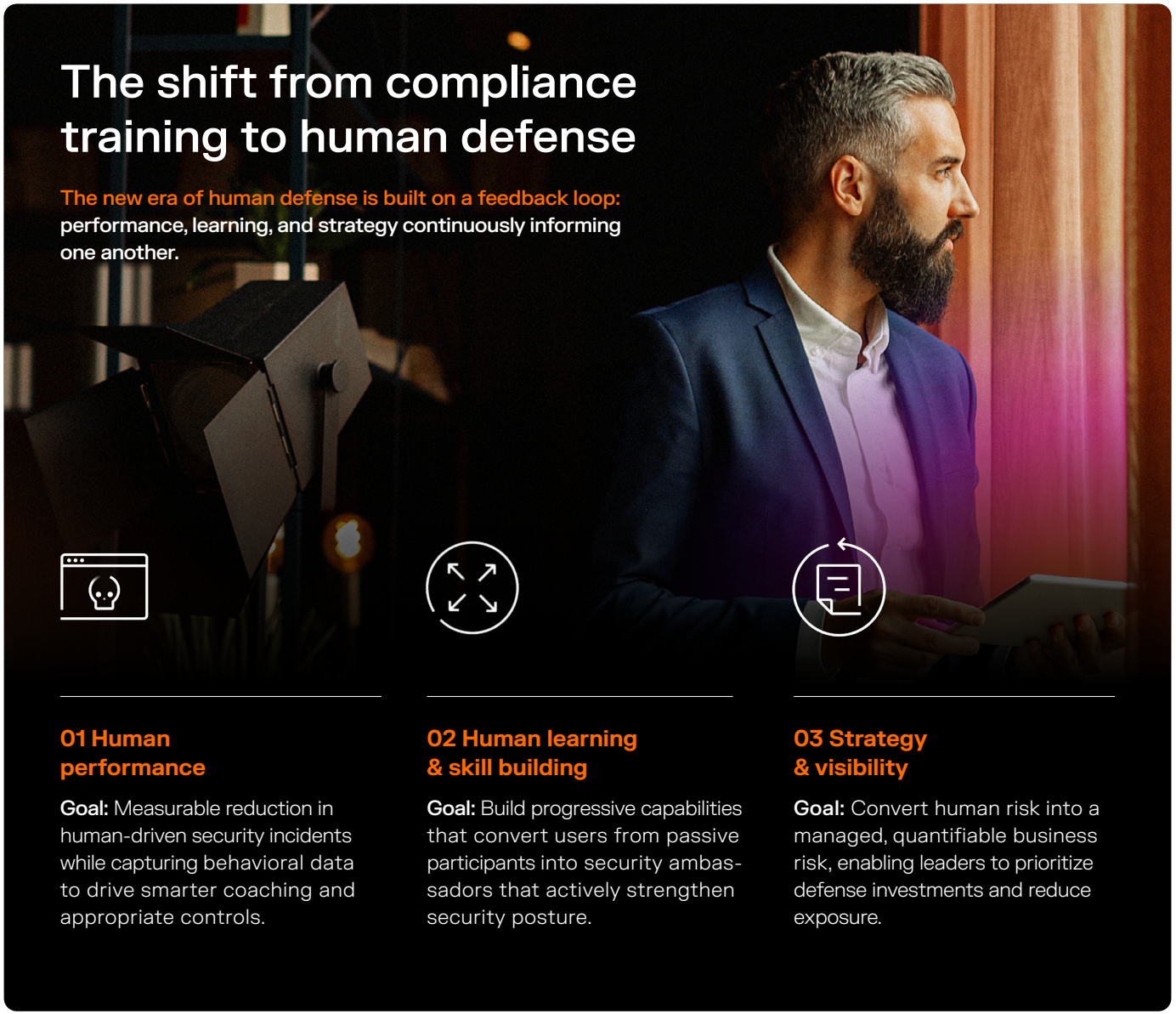
03 IT BLAMES USERS

- **Measures failure** more than progress
- **Punishes mistakes** instead of reinforcing learning
- **Little or no support** to improve response in the moment of risk
- **Positions people as liabilities,** not as a critical layer of defense

04 IT CAN'T PROVE IMPACT

- **Click rates** ≠ risk reduction
- **Coaching stays static** even as risk signals change
- **Defenses don't adapt** based on who clicks, reports, or struggles
- **ROI?** Unclear at best.

It’s time for a different model



The shift from compliance training to human defense

The new era of human defense is built on a feedback loop: performance, learning, and strategy continuously informing one another.

01 Human performance

Goal: Measurable reduction in human-driven security incidents while capturing behavioral data to drive smarter coaching and appropriate controls.

02 Human learning & skill building

Goal: Build progressive capabilities that convert users from passive participants into security ambassadors that actively strengthen security posture.

03 Strategy & visibility

Goal: Convert human risk into a managed, quantifiable business risk, enabling leaders to prioritize defense investments and reduce exposure.

TRADITIONAL SAT

- Annual ✗
- Generic ✗
- Reactive ✗
- Siloed ✗
- Ineffective measurement ✗

ADAPTIVE HUMAN DEFENSE

- Continuous ✓
- Realistic ✓
- Personalized ✓
- Measurable ✓
- Integrated ✓

Intelligent learning
vs. check-box training

The bottom line? Static, compliance-focused programs don't reduce real-world risk.

What's needed

Continuous, adaptive, behavior-driven learning, based around:

01 Content

Customizable library, SCORM-ready

Tailored to role and behavior

02 Training

Just-in-time microlearning, delivered at moment of risk

Short lessons and staggered tests

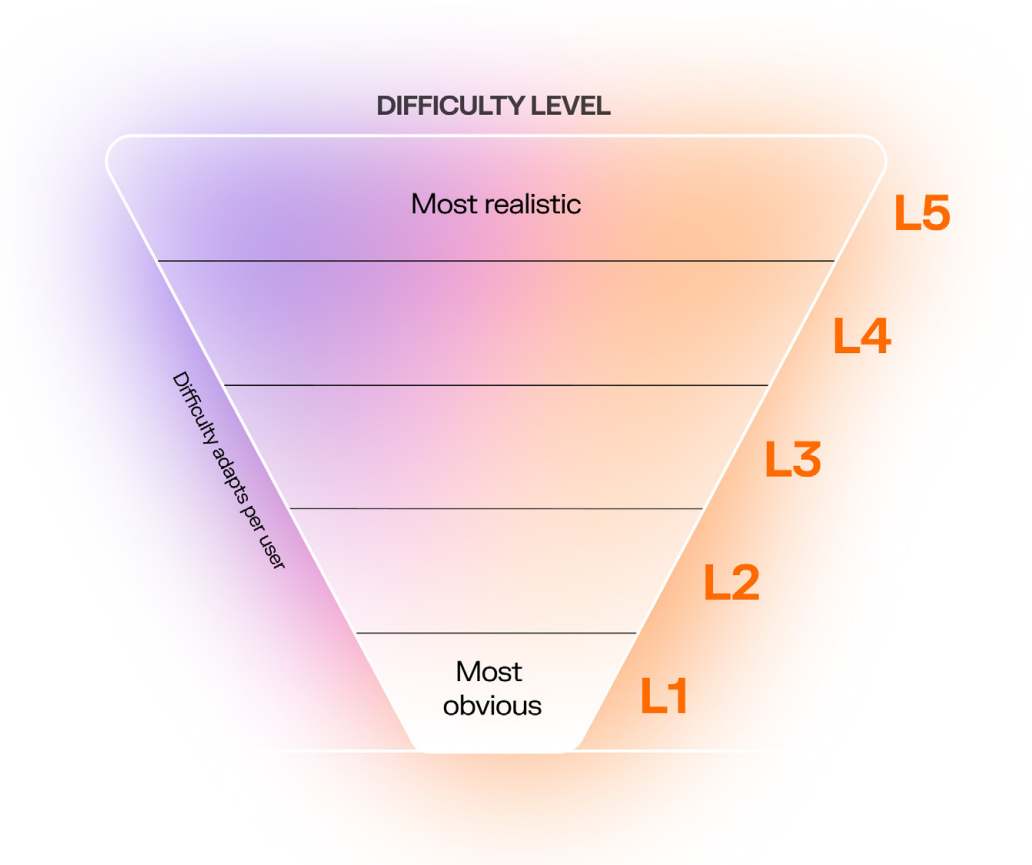
03 Scheduling

Recurring reinforcement or one-off lessons

Fits into workflow, doesn't disrupt it

Realistic simulations that transfer to real-world learning

To actually build skills, phishing simulations should evolve from low to high difficulty:



What's needed

1. Realistic phishing simulations

AI-generated phishing scenarios tailored to each user and role

Difficulty adapts automatically based on performance; immersive tests integrate into real communications

2. Adaptive difficulty

Learners advance through increasingly challenging scenarios according to performance

Skill growth is measured and reinforced over time

3. Profiles & insights

Individual and group **performance metrics**

Risk analysis based on integrated metrics from SAT tool plus email security for a complete view

Training intelligence that strengthens security – and delivers on ROI

Unifying training and email protection

The goal is a security culture that strengthens each employee's real-world resilience while simultaneously improving the protective controls around them, **allowing you to:**

- **Quantify correlation** between human performance and reduced human exposure
- **Drive a positive security culture** that rewards good behavior such as reporting
- **Communicate program value** to the board with confidence

What's needed

01 Analytics that measure risk

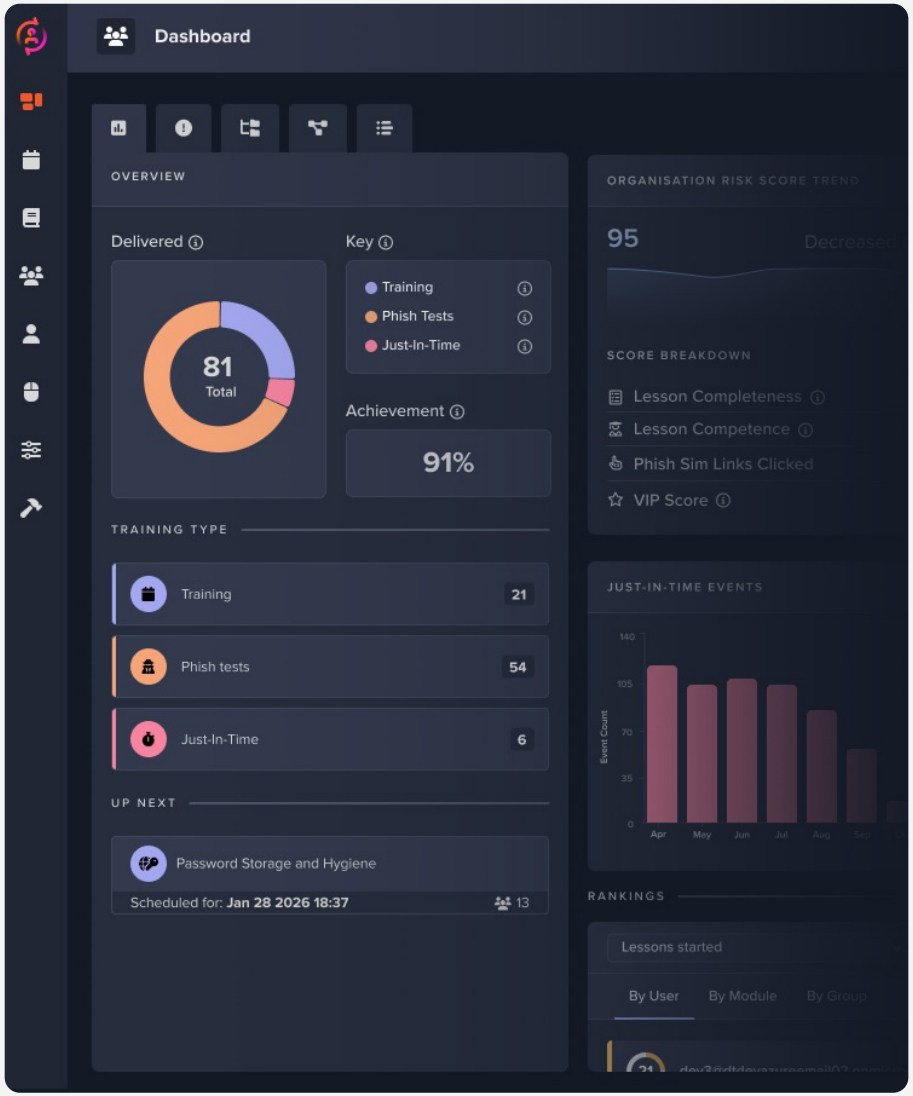
- Dashboards with session stats, risk scores, and month-over-month trends across users, groups, and the organization
- Board-ready metrics that convert performance data into defensible views of human risk (with VIP context)

02 Data access without barriers

- Export your data anywhere - integrate metrics into existing security, GRC, and reporting workflows

03 Integrated, closed-loop defense

- Bi-directional integration with email security, where people and threats interact most
- Telemetry flows both ways so coaching and controls adapt as users and threats evolve



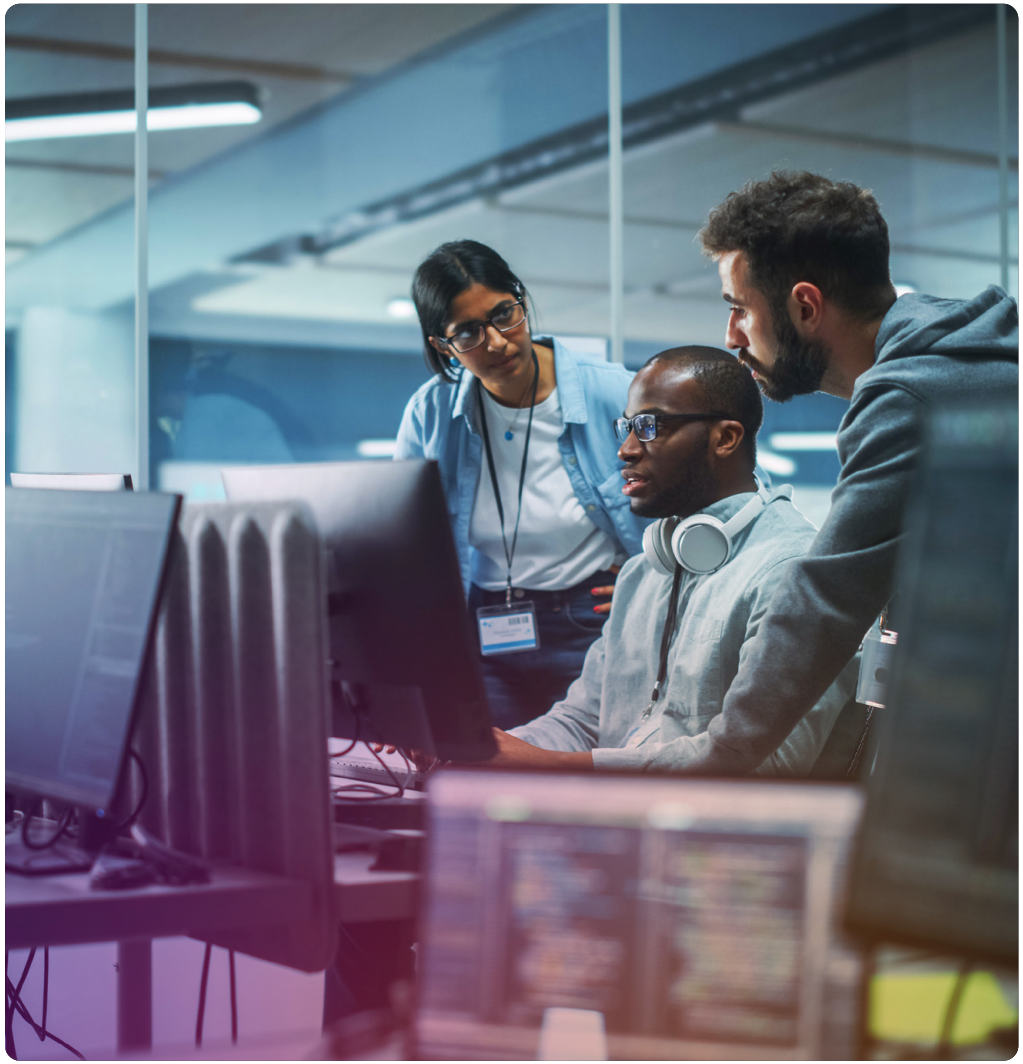
Adaptive human defense, purpose-built for the modern workforce

Any SAT program can deliver training — but training alone is no longer enough. In organizations facing AI-powered threats, static, non-personalized programs cannot keep pace.

True risk reduction requires personalized, in-the-moment security coaching, where behavior and detection continuously inform and strengthen each other. Threats target humans. Make them your strongest line of defense. Darktrace is defining a new standard in human risk management.

Let's recap the benefits

- **True risk reduction that minimizes successful phishing**
- **A modern, AI-driven security culture powered by dynamic, user-specific learning**
- **Measurable behavior change, not just completion rates**
- **Seamless integration with your existing security stack for closed-loop protection**
- **Demonstrable ROI with board-ready metrics and defensible reporting**



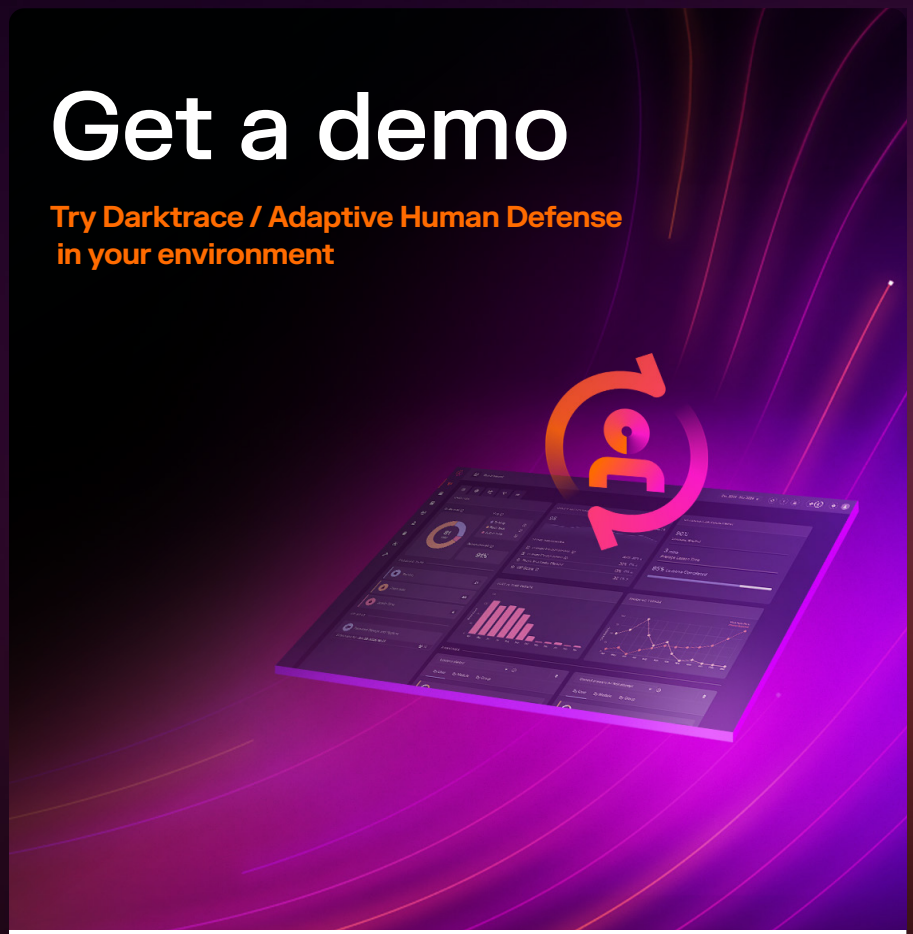
Check out

Darktrace / Adaptive Human Defense solution brief

Download brief ↗

Get a demo

Try Darktrace / Adaptive Human Defense in your environment



Book a demo ↗