
Repetitive Training Stress Syndrome Affects Someone You Know and Love

How to sustain engagement year over year



2018 HUMAN
PERFORMANCE
CONFERENCE

HARDWARE AND WETWARE



Three years ago...

in a state far, far away

THE PROBLEM

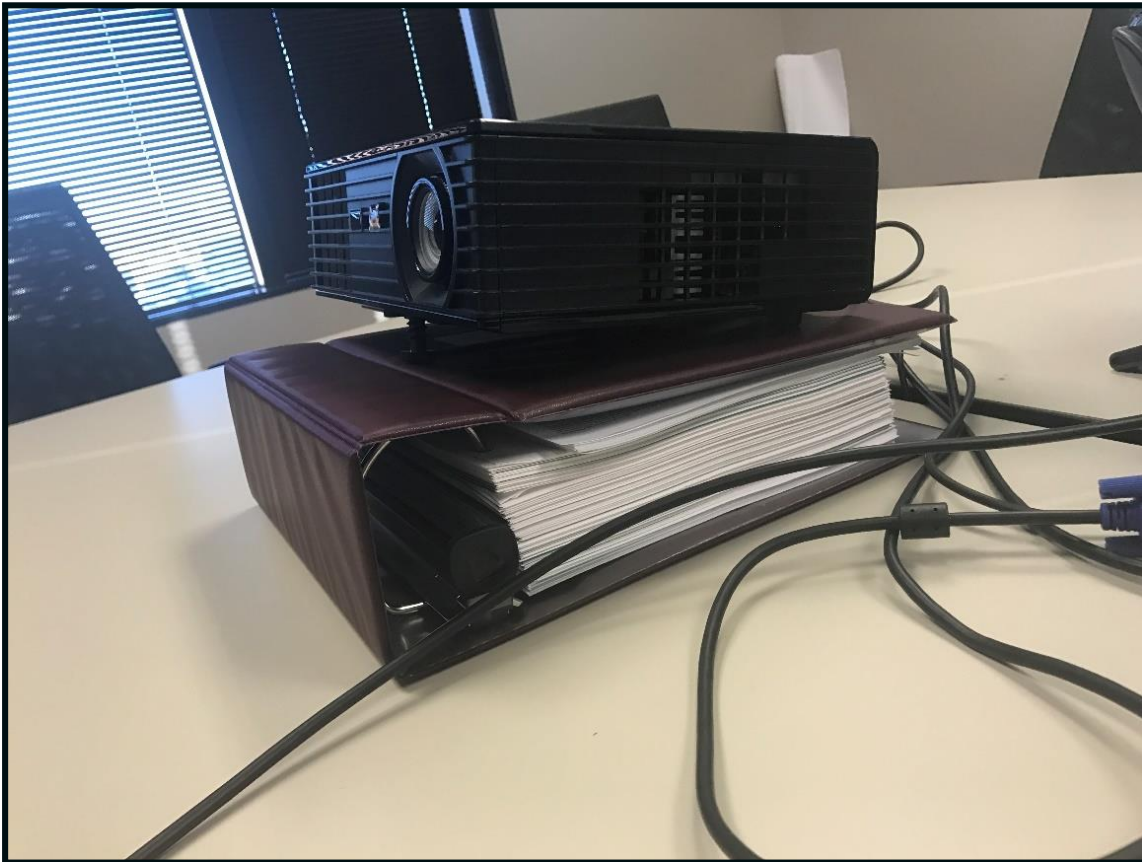
The CIP Standards are an opportunity for APS to equip our people to protect our critical infrastructure...

...but many employees are **apathetic and ill-equipped**



STANDARD TRAINING TOOLS

Traditional Learning



E-Learning

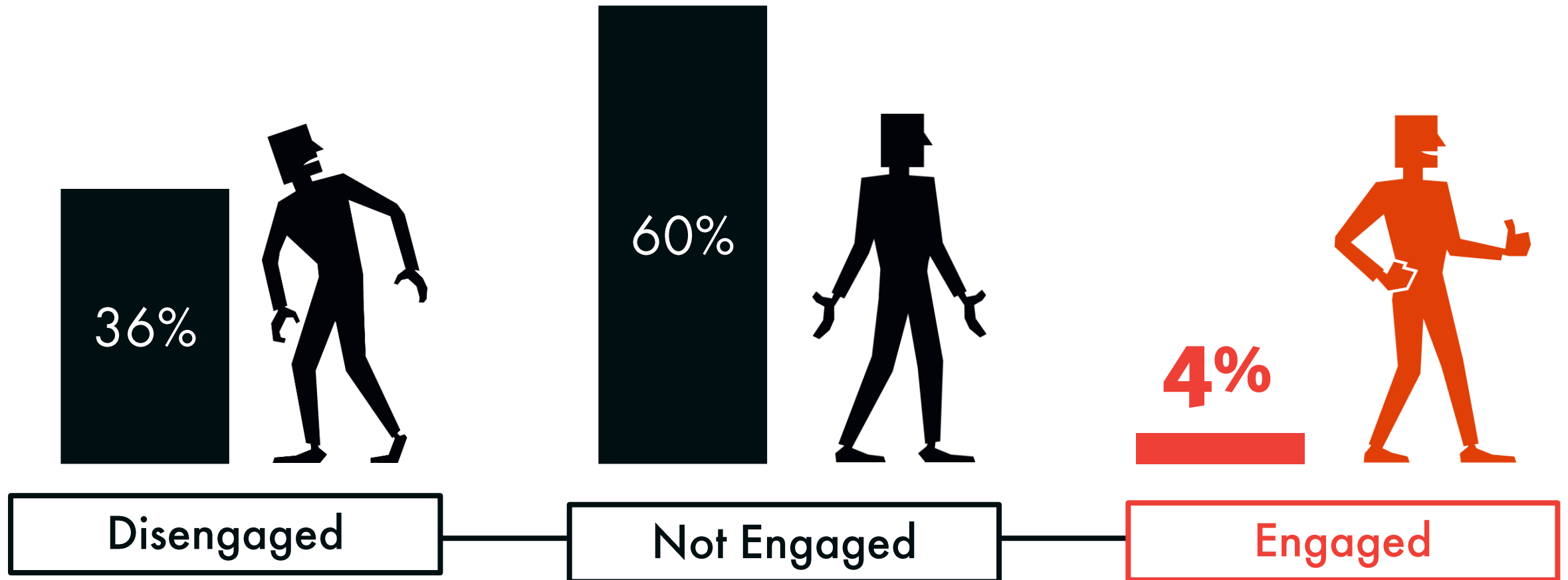
Security Management Controls

Cyber Security Policy — The Responsible Entity shall document and implement a cyber security policy that represents management's commitment and ability to secure its Critical Cyber Assets. The Responsible Entity shall, at minimum, ensure the following:

- R1.1.** The cyber security policy addresses the requirements in Standards CIP-002 through CIP-009, including provision for emergency situations.
- R1.2.** The cyber security policy is readily **available to all personnel** who have access to, or are responsible for, Critical Cyber Assets.
- R1.3.** **Annual review and approval** of the cyber security policy by the senior manager assigned pursuant to R2.



STANDARD ENGAGEMENT



THE QUEST

825 Miles

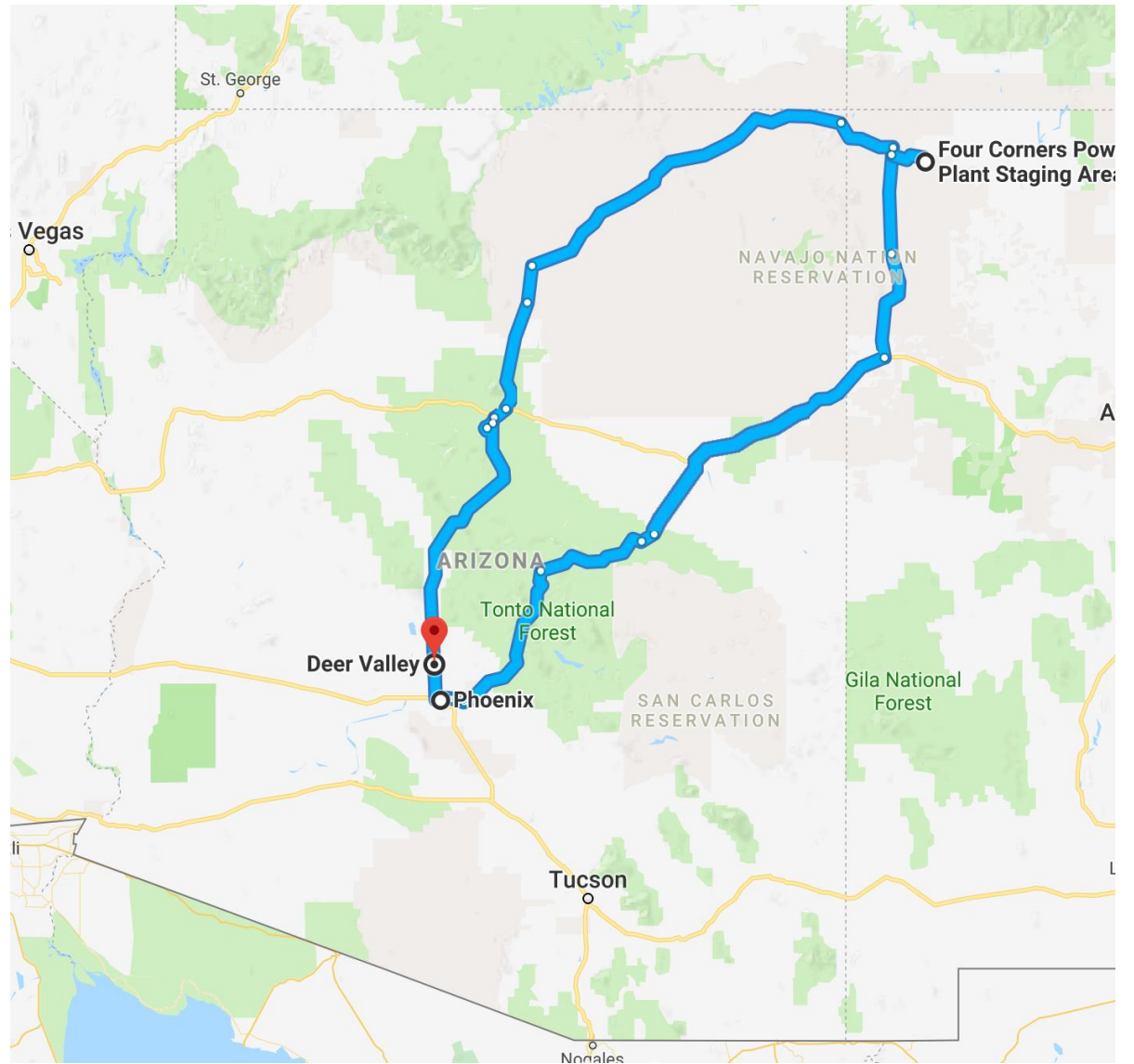
Four facility visits

30+ Interviews

3 languages

~ 435 caffeinated drinks
and a few "other" drinks

And we had the answer....



THE SOLUTION

No seriously...

E-Learning

Security Management Controls

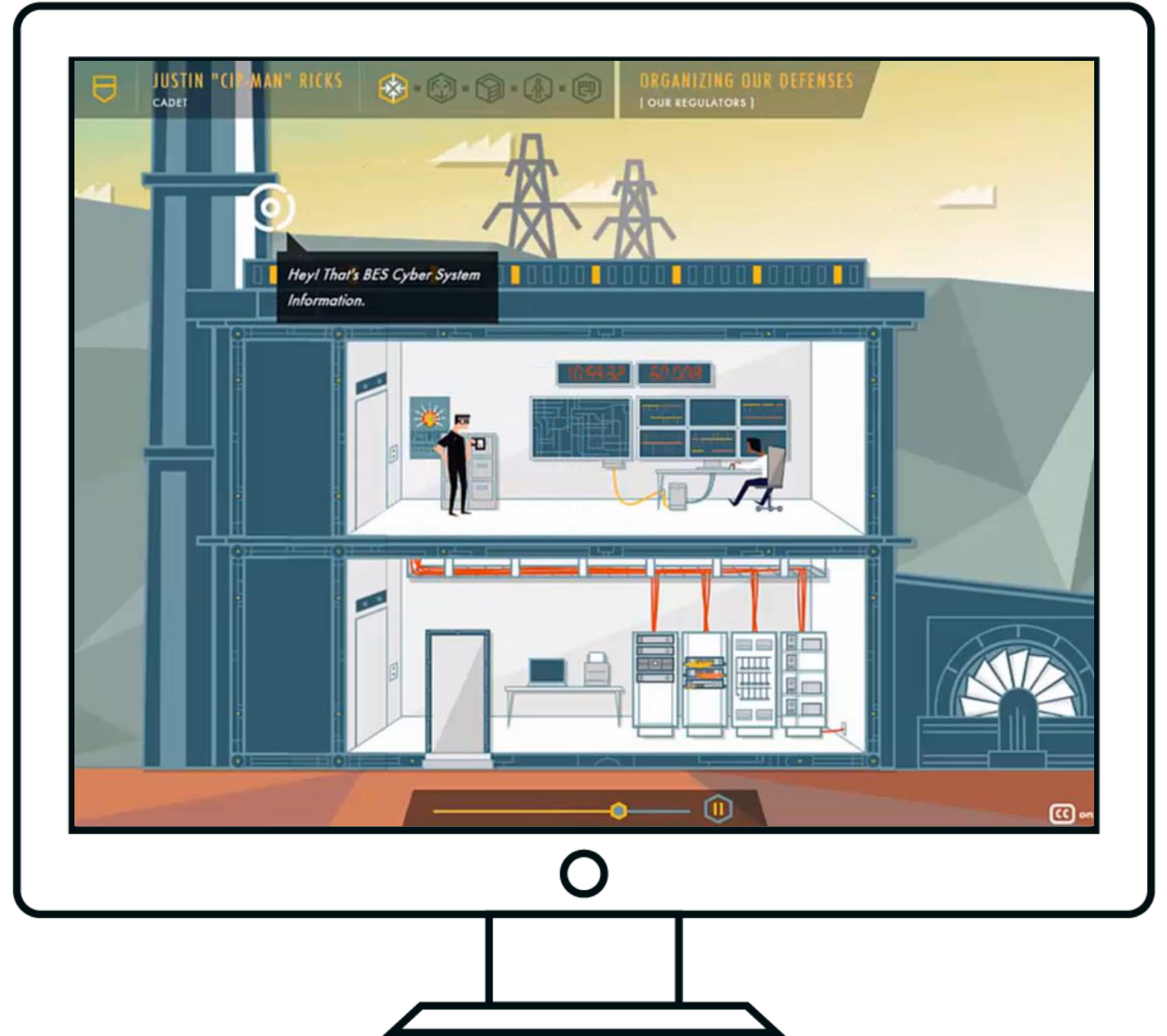
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THE SOLUTION

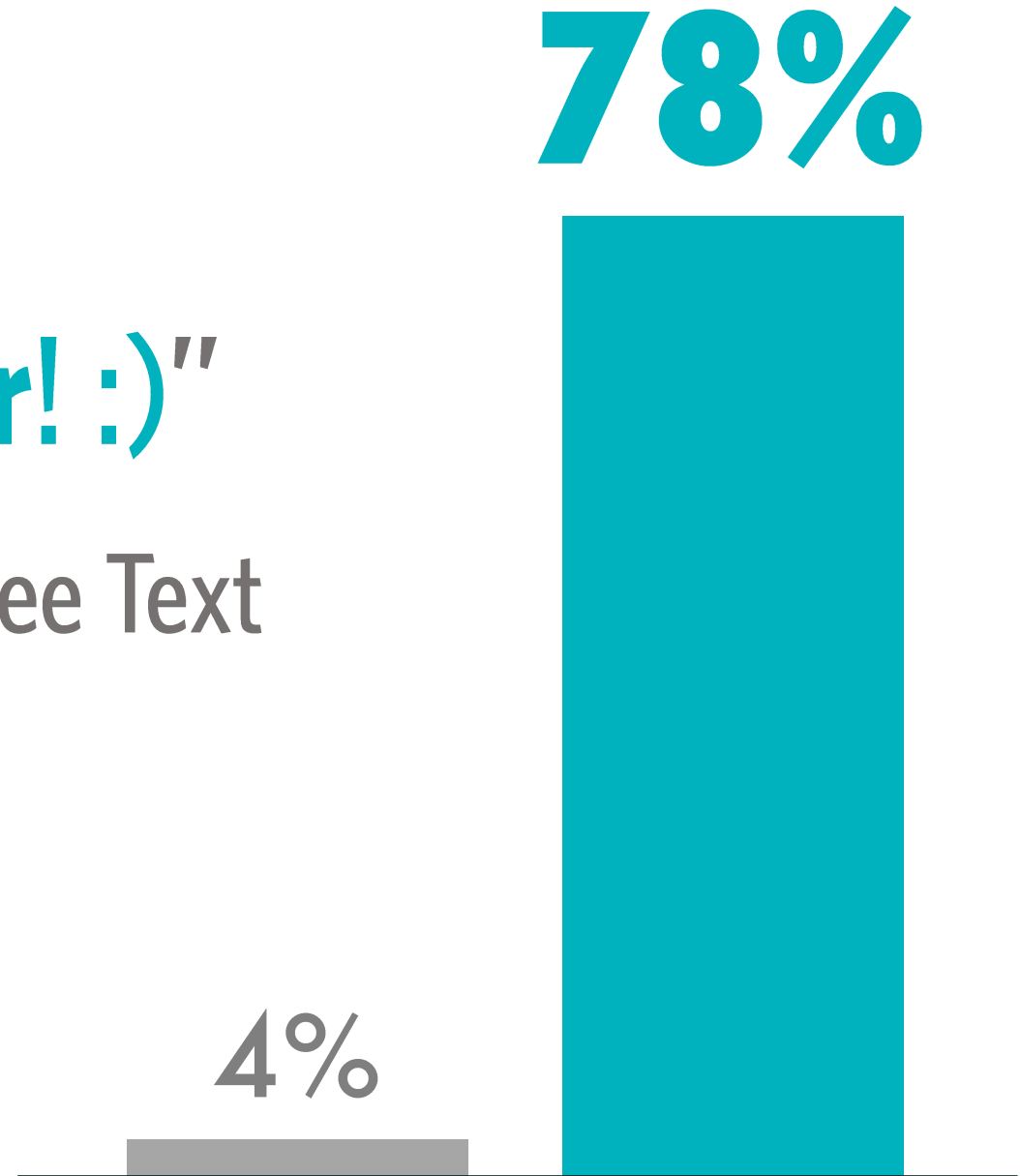
But more like
this...



THE RESULTS

“I am a **CIP Defender! :)**”

- Actual Employee Text



THE RESULTS



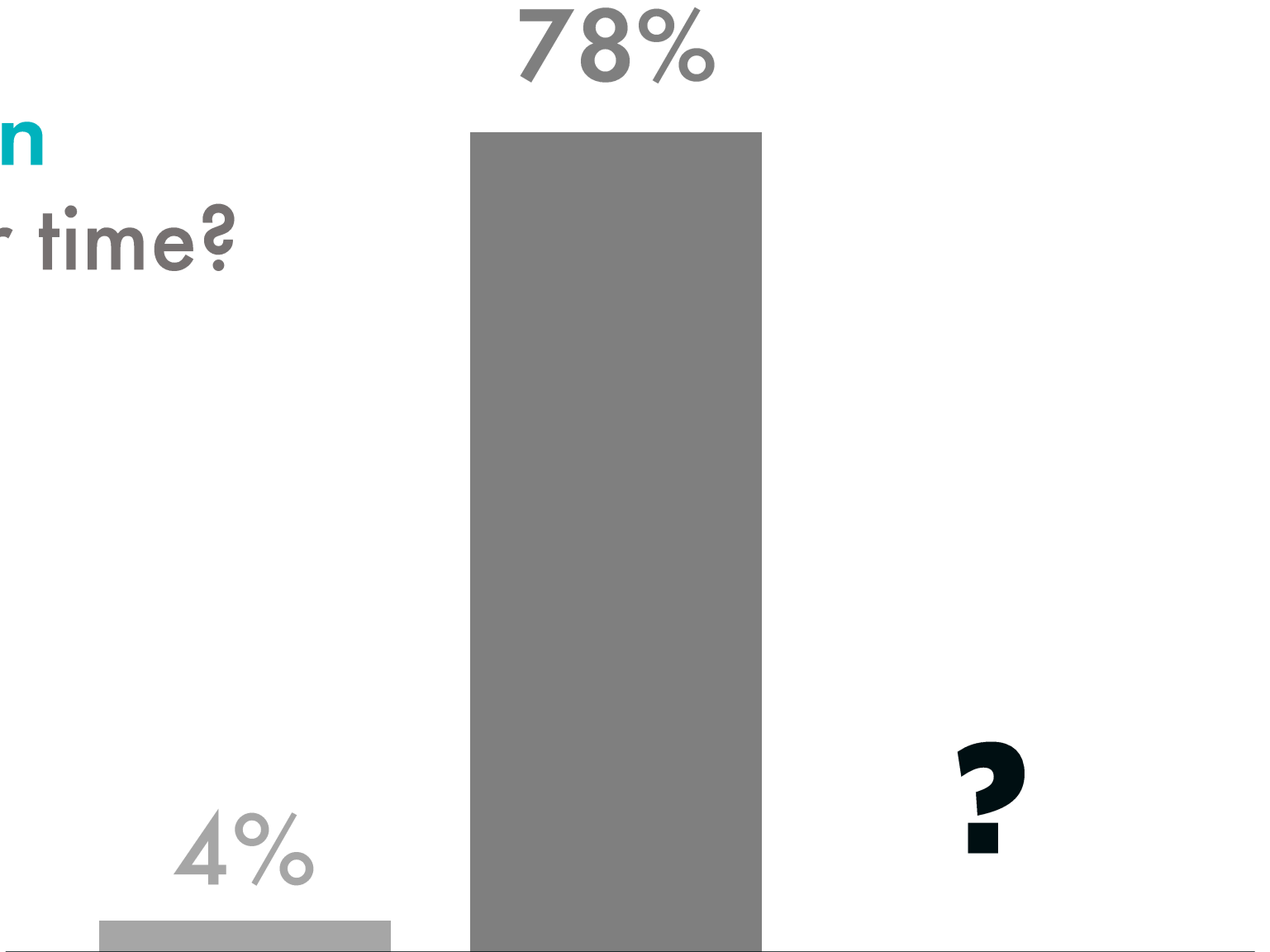
**learning
technologies
awards**

Fast forward one year...

we have a new opportunity in 2017

A NEW CHALLENGE

How do we **sustain engagement** over time?



AND WE HAD DATA... LOTS OF DATA

Comment

A few new topics were nice to see, but mostly a rehash of what was before. Always fun to pick the crazy defenses just for kicks.

-A few of the transition animations were unnecessarily slow. \n-The narration sections were slow, a x2 playback button to toggle on or off would be nice.\n-Overall, this was a good training tool.

A fun way to learn security, even people with very little computer knowledge should be able to follow this. Good job!

A good refresher. The format helps quite a bit.

A little too cheesy....

A lot of down time between pages and kept freezing. There was a lot of wasted time on non-material information. Too long for a refresher.

A lot of time is wasted at the end of many sections. For example a section completes and you are forced to listen to some music for about five seconds before the "Continue" button shows up. This makes the training longer than it needs to be.

A printout with the updated information should be provided to the user to ensure they have documentation of the new changes.

Absolutely good refresher. Perhaps make a different version of the training depending on how many years you have been onboard...keeping it fresh even though it's refresher training.

allow window to be resized. Allow a pause to read character descriptions when wanted.

allow window to be resized. Allow a pause to read character descriptions when wanted.

Animation was engaging but over the top. Can it be shorter.

Animations were helpful!

Annual training is always a good policy to maintain.

Anything else

asd

At first, I felt this method of training was somewhat below an adult intellect, but after awhile, I actually found it to be an entertaining form of education and it kept my attention throughout.

Being able to go back and select different defense options would be fun.

Being able to pause some of the longer video segments would be nice. Some of the text for the bot introductions was not on screen long enough to finish reading.

better than Cats, I'd go see it again and again

better than most of the training on ELM.

bleh

YR 1 JOURNEY



RECRUIT

JUSTIN "ACER" RICKS
CADET

ORGANIZING OUR DEFENSES
[OUR REGULATORS]

VIOLATIONS

Someone just left the facility with BCSI - a picture of the operator's computer screens! If an auditor learned of this, we'd likely be issued a Violation. Violations can come with big fines, up to \$1,000,000 per day, per incident. Youchl

So when we violate a CIP requirement, it's always better to issue a **Self-Report** to our regulator and fix our internal processes so the issue won't happen again. We still may receive a violation, but regulators look more favorably when we catch and fix our own problems.

Since this incident, all Defenders have received BCSI security training. Let's see if this helps avoid a violation.

RUN SIMULATOR

SIMULATOR

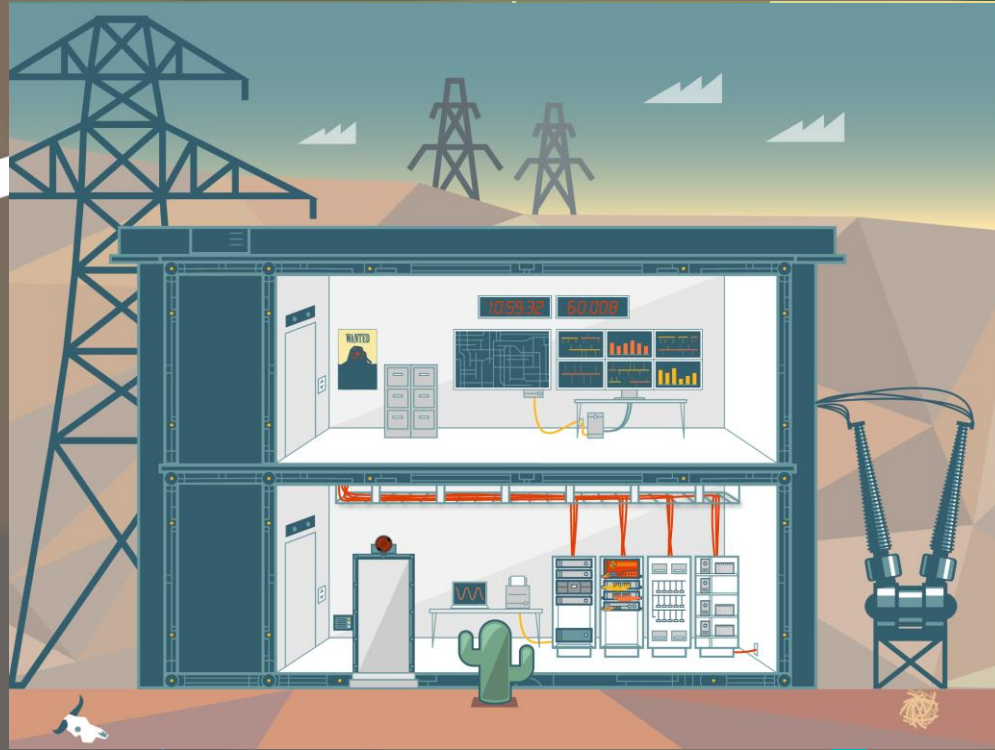


DEFENDER

YR 2 JOURNEY - GO WEST, DEFENDER! GO WEST!

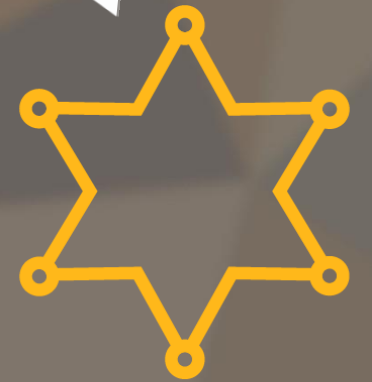


DEFENDER



SIMULATOR

DUEL!



DEPUTIZED

Test Drive

wanna take year 2 for a spin?



*It's already been a year since
you stood up to Sektimus and
passed your training to
become a full CIP Defender.
It's good to see you again.*

AUTHORIZATION RESULTS



NAME
JUSTIN RICKS

ORGANIZATION
ARIZONA PUBLIC SERVICE

RANK
DEFENDER

CLEARANCE LEVEL
**CRITICAL INFRASTRUCTURE
PROTECTION (CIP)**

CONTINUE



IT'S SHOWDOWN TIME!

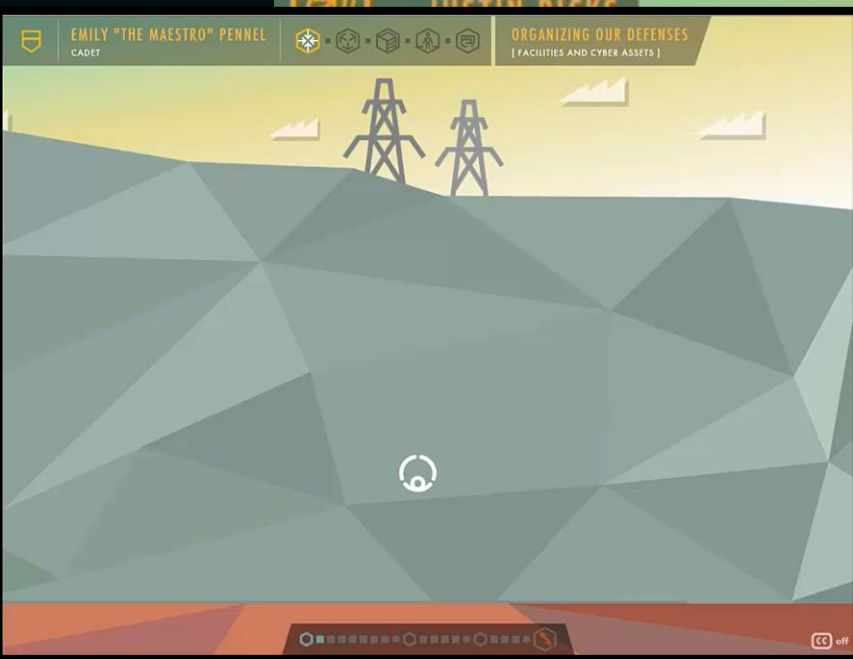
Your presence is required for the defense of your honor.



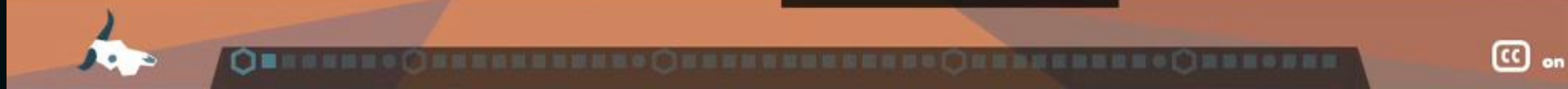
ACCEPT!

REJECT!

FLYNN: Bully! Defender, you're game as a banty rooster. Rules of the Duel dictate that it is now your privilege to choose the category.



WarCore! I can see you're taking this Western theme seriously. Well, pick your poison .. Err facility.





JUSTIN RICKS
DEFENDER





JUSTIN RICKS
DEFENDER



MARAUDERBOT aka "Kettlehead"

Not Your Friend

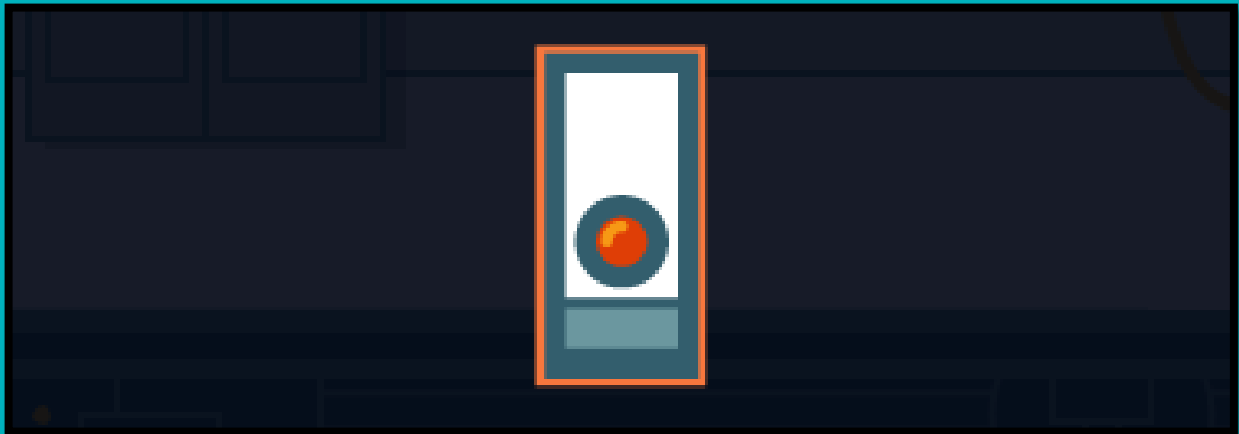


Configuration: Physical Attack

Strength: A Fracking Lot

The ground troops of Sektimus' advance force.
Able to be configured for multiple attacks.



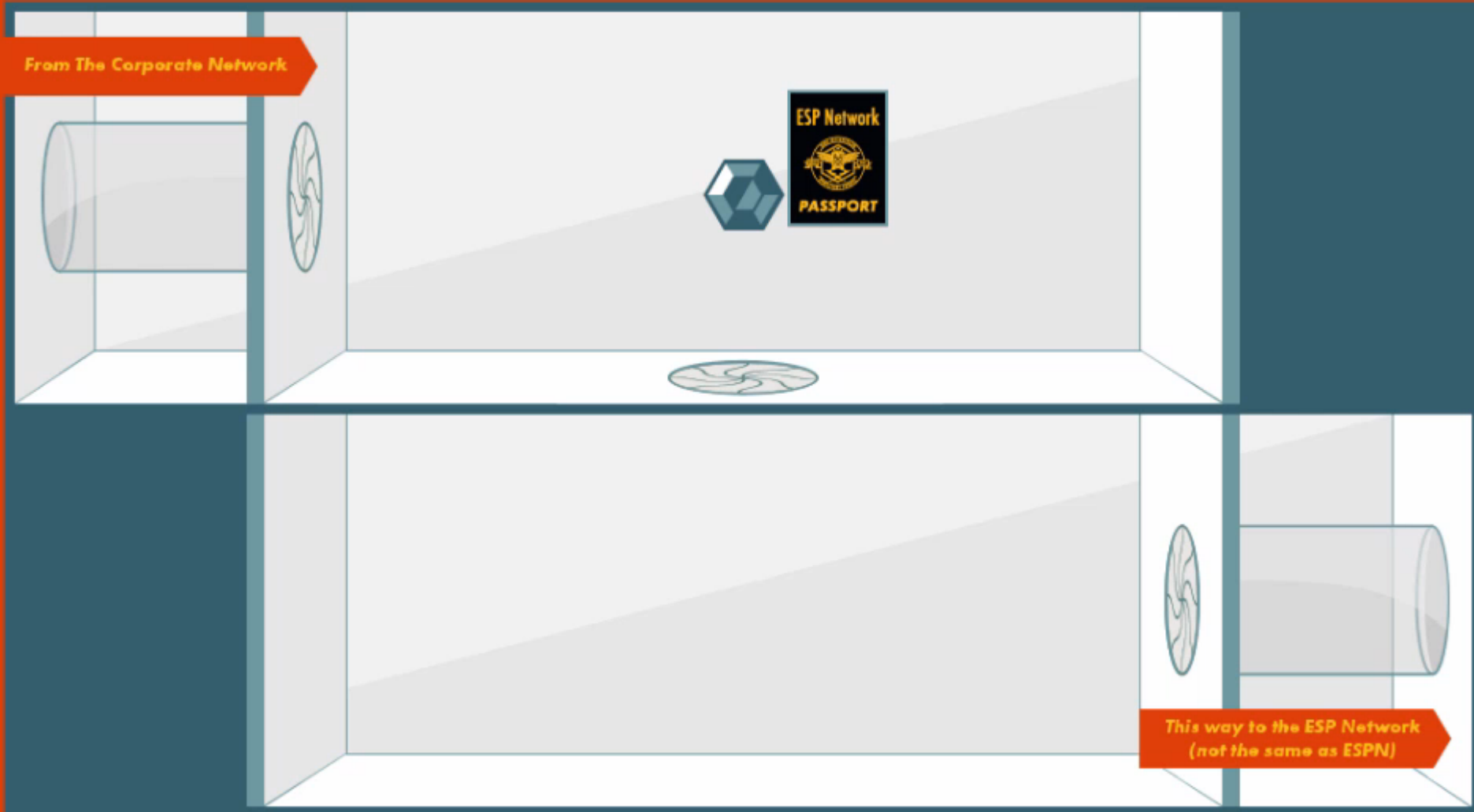




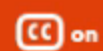
JUSTIN RICKS
DEFENDER



CC on



PACKET: Hello. I'm from the corporate reporting server and I'm headed to the control server.





Facilities, Defenders, and Regulators

DUEL!





QUESTION 3 OF 7:

How do we easily identify CRCAs when inside a PSP?

Look for the red
"Critical Asset"
sticker on them



Pull up the
CRCAs asset
inventory on
your phone and
look it up



Find an IT or
technical person
and ask them



LEVEL UP

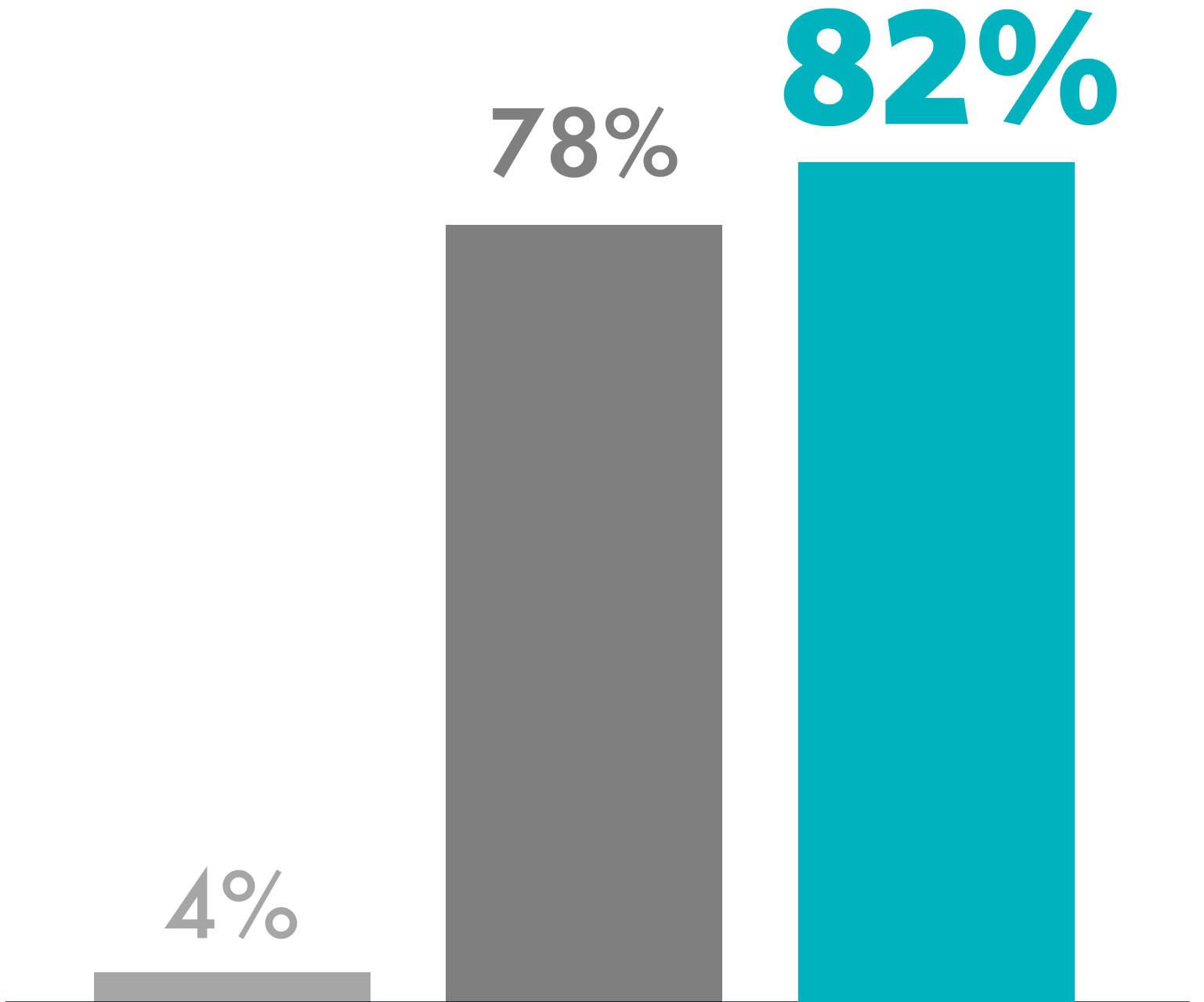


DEPUTIZED!

The Results

show me the numbers

YEAR 2 RESULTS



YEAR 2 RESULTS

38% of learners provided feedback.
Nearly all feedback was **constructive**.

44% of comments expressed
appreciation.

YEAR 2 RESULTS

"...needed refresher is helpful **thank you**"

"**Keep it up.** It makes the training fun."

"**Thank you!**"

"It was fun and **uplifting**"

"Doing good. Keep up [the] good work."

"See you next year"

"I **appreciated** the acknowledgement that this is my second time."

"I couldn't help but **enjoy.**"

"**better than Cats,** I'd go see it again and again"

"**THANKS!**"

"Continues to be **engaging.**"

"A fun way to learn security, even people with very little computer

THE NEXT GENERATION


SELECT YOUR EXPERIENCE

MAXIMUM IMMERSION

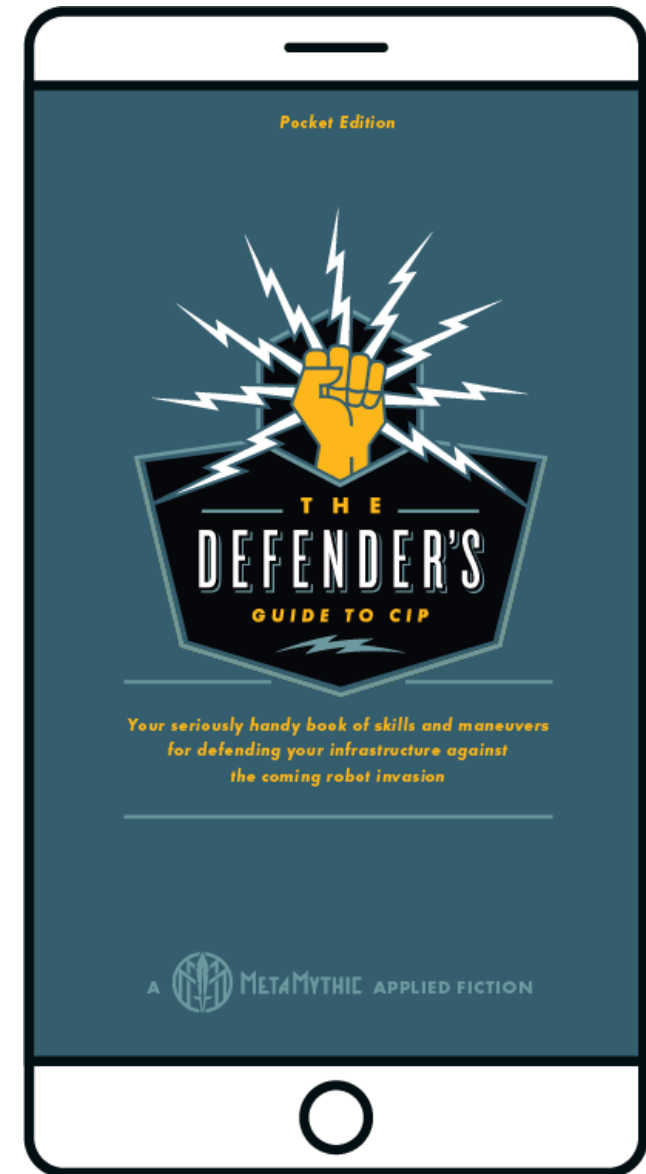
Become part of the story. Learn and use cyber-skills to defend your organization from the most nefarious evil the world has ever seen.

Recommended by: 90% of previous users as the best way to learn your cyber-skills.

YES PLEASE!



Immersion Mode



Pocket Defender



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