



# FAILURE

*Unbreakable security by breaking things*



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totaalcyber.com



Who Held You?



Traditional security



# Marks & Spencer pauses online orders as firm struggles with cyber-attack fallout

Contactless payments now restored in stores after week of problems as retailer apologises to shoppers



What  
Happened  
Yesterday?

Work-as-imagined

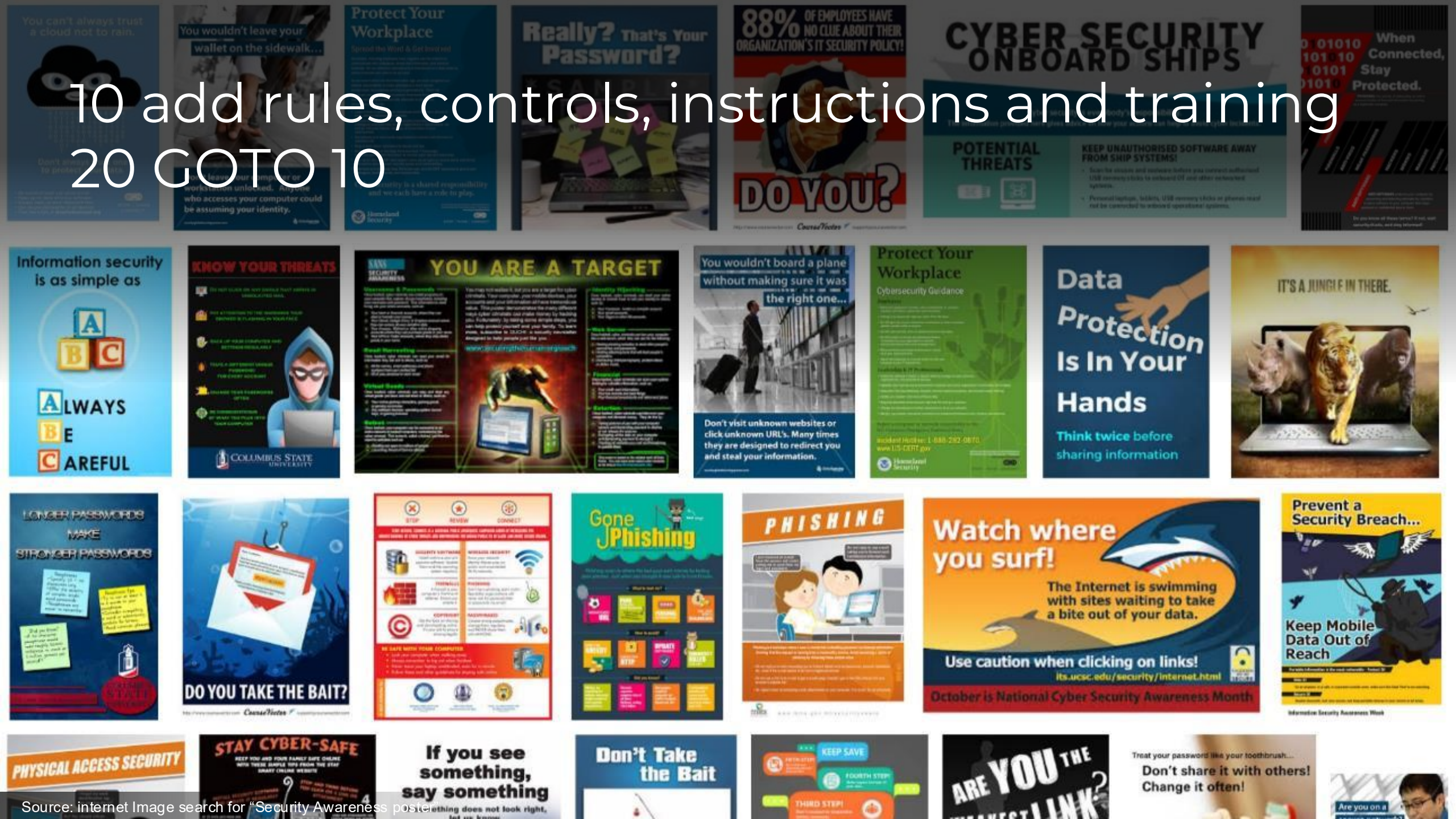
WHEN USING AN E-TICKET, DO NOT PRESS THE GREEN BUTTON

E-TICKET SCANNEN



Creditcard

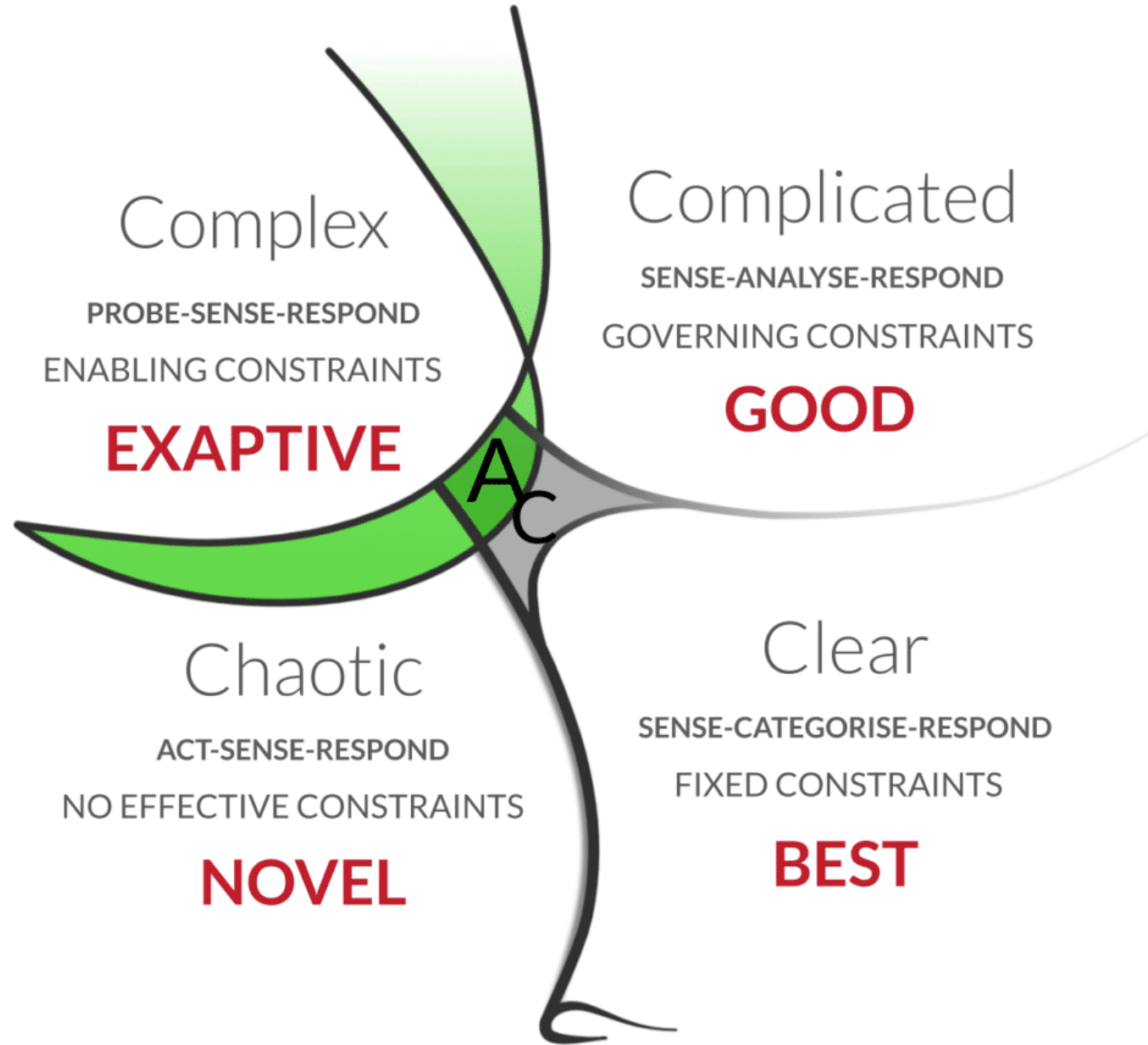
# 10 add rules, controls, instructions and training 20 GOTO 10



Fix the human!



It's  
~~complicated~~  
complex



# Complex systems characteristics



# The Cobra Effect



# Lever hier je lege flessen in. The *Statiegeld* Effect

**Vomar**  
VOORDEEL  
MARKT



**Zo lever je je blikje met statiegeld goed in:**

- ✓ Leeg
- ✓ Barcode goed scanebaar
- ✓ Statiegeldlogo
- ✓ Ongedeukt

STATIEGELD NEDERLAND  
Vomar

Defect!

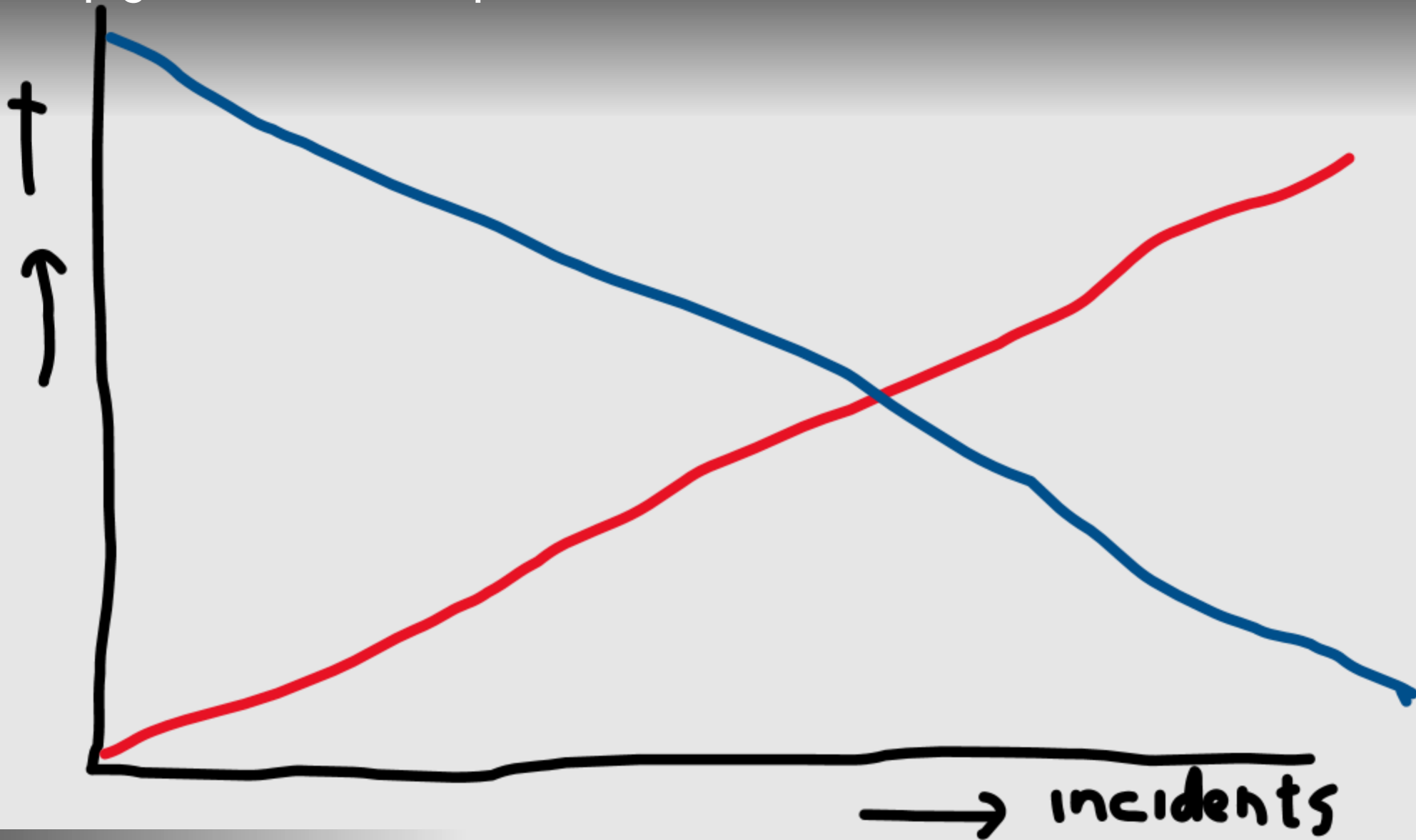
Defect!



# Heinrich's pyramid

A photograph of the Great Pyramids of Giza at sunset. The pyramids are silhouetted against a bright, glowing sky. The largest pyramid, the Great Pyramid of Giza, is on the right, and two smaller ones are on the left. The sun is low on the horizon, creating a strong backlight effect. The foreground is dark and shows the desert floor with a few small figures of people in the distance.

# The pyramid in practice





Source: <https://www.pexels.com/photo/beer-cans-in-the-production-line-5532668/> & <https://www.pexels.com/photo/women-singing-while-a-man-is-playing-a-saxophone-9002797/>

# Safety-I (traditional)

Prevent things  
going wrong

---

Humans are the  
problem

---

Eliminate  
variability

---

Blame and fix



A grayscale image of a microscope, showing the eyepiece, objective lenses, and the stage with a slide.

## **Safety-I (traditional)**

Prevent things  
going wrong

---

Humans are the  
problem

---

Eliminate  
variability

---

Blame and fix

A grayscale image of a jazz band performing on stage. A man in the foreground is playing a saxophone, and two women are singing into microphones.

## **Safety-II (resilience)**

Ensure things go  
right

---

Humans are the  
solution

---

Harness  
variability

---

Learn and adapt



1 pro-active failure

2 learning post-mortem

3 psychological safety



1 pro-active failure

2 learning post-mortem

3 psychological safety



We  
Hire  
monkeYs



Start small



# Workout Helps You



# Break with a fixing mindset

		Impact				
		Trivial	Minor	Moderate	Major	Extreme
Probability	Rare	Low	Low	Low	Medium	Medium
	Unlikely	Low	Low	Medium	Medium	Medium
	Moderate	Low	Medium	Medium	Medium	High
	Likely	Medium	Medium	Medium	High	High
	Very likely	Medium	Medium	High	High	High

1 pro-active failure

2 learning post-mortem

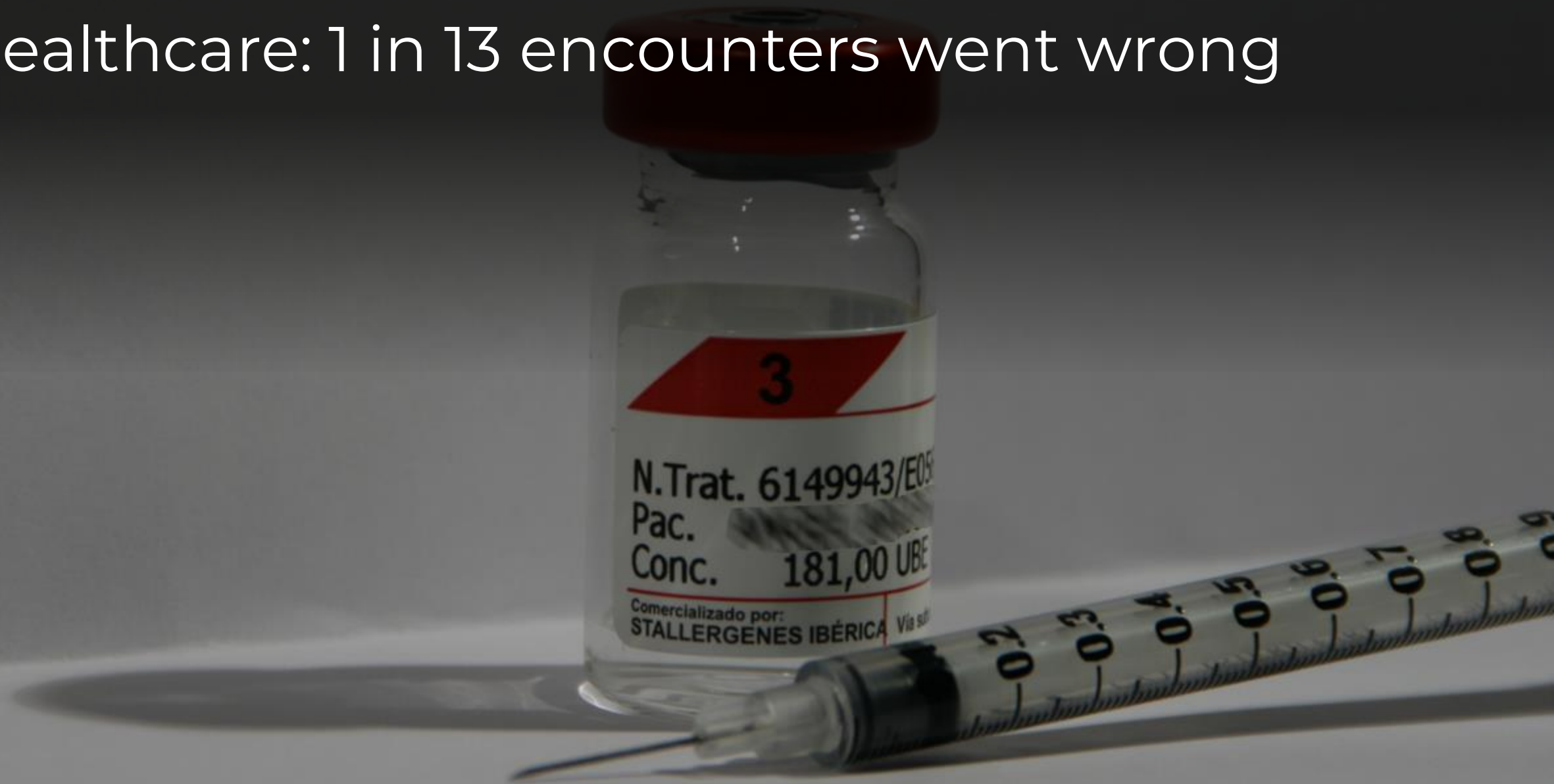
3 psychological safety



What is failure anyway?



# Healthcare: 1 in 13 encounters went wrong



Source: <https://flic.kr/p/5S8CTc> (Creative Commons)  
11th Ave. UTH  
Thos. S. Smith - Principal  
We suggest that Willis be required  
to write SEATTLE FIRE DEPARTMENT  
this sentence (sample attached)  
about 50 times - Write Signature  
and return by mail to our office  
E. BLAINE ROSSMAN, Inspector

Willis Barker.  
8 yrs.  
alarm.  
ryl pulled a false

2# I am sorry yl pulled a false  
alarm.

Misc  
Sunder

Blameless  
~~post-mortem~~  
investigation  
study

I am sorry yl pulled a false  
alarm.

4 I am sorry yl pulled a false  
alarm.

We need to understand how work works  
("work-as-done")...



...instead of aiming for “work-as-imagined”



# #FAILFEST



Only 54%

Only 54%.



Other industries have been doing this for a while...



1 pro-active failure

2 learning post-mortem

3 psychological safety

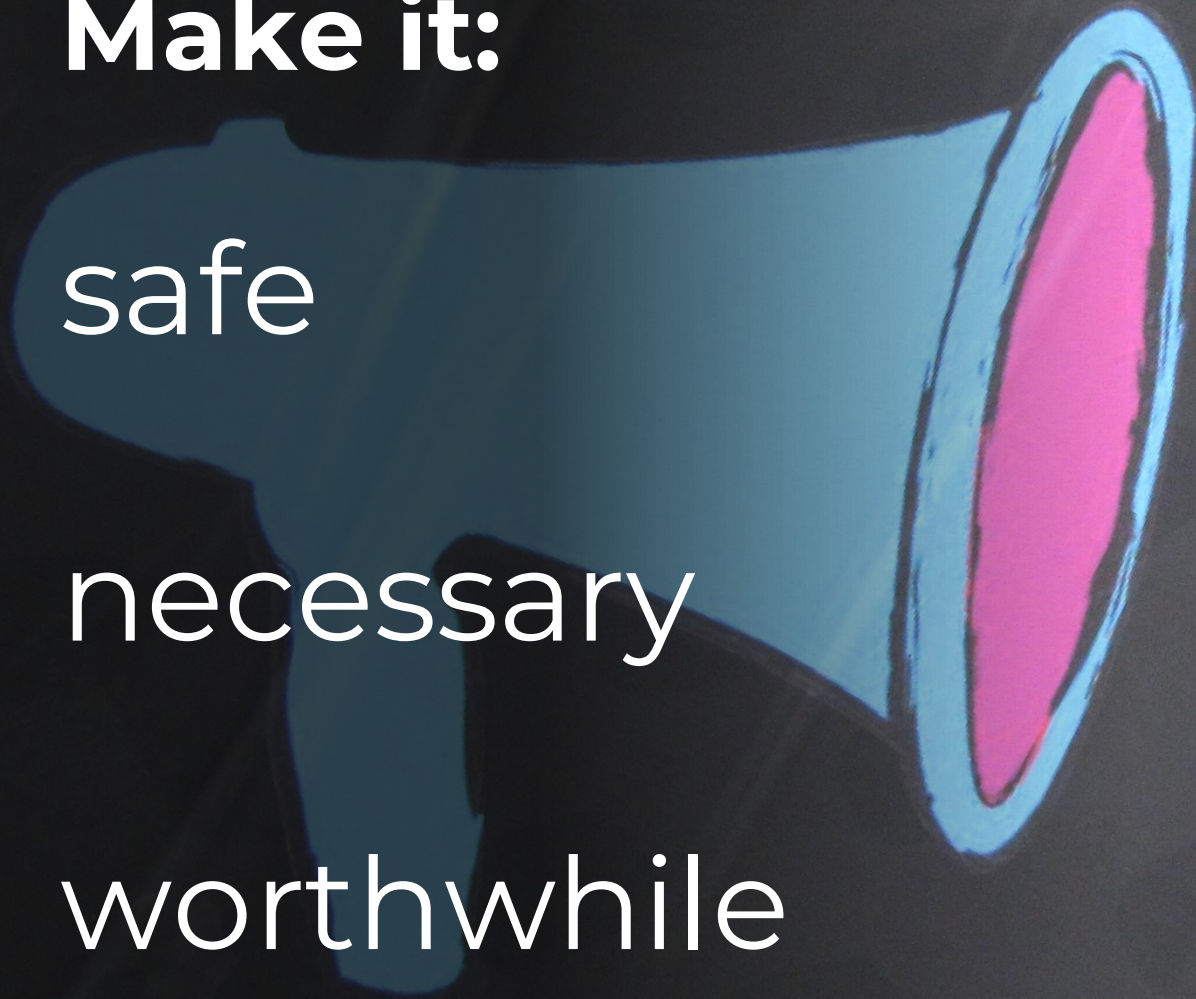


**Make it:**

safe

necessary

worthwhile



SPEAK UP

# Team check



Datum:	
13:30	Vrijeme
13:45	
14:00	

ZAKAZIVANJE TERMIJA ZA  
II SMJENA ZA  
POZIV

Team of





Think in systems (of systems)



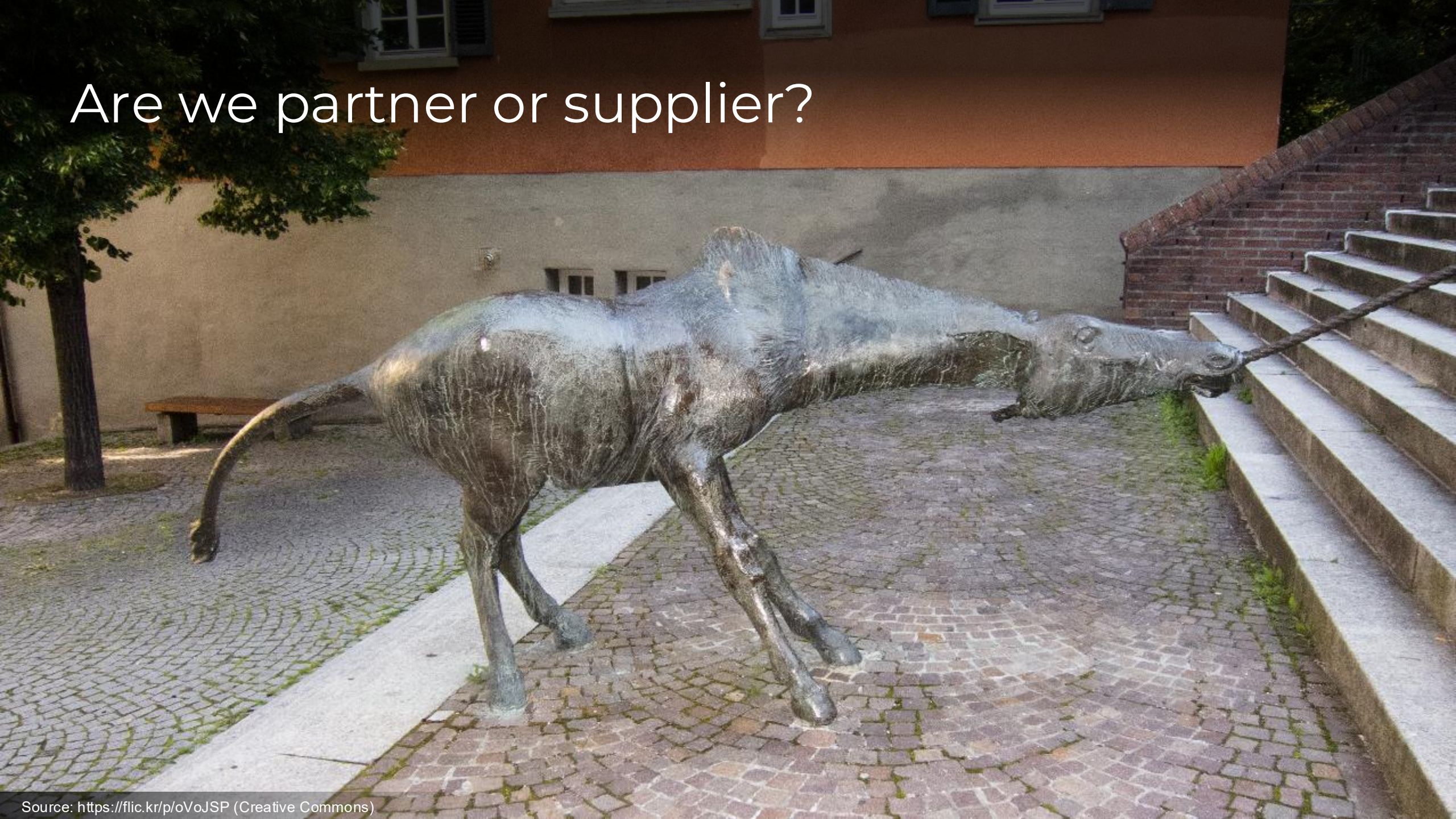
Of course we work together on security

## VENDOR RISK ASSESSMENT QUESTIONNAIRE TEMPLATE

VENDOR TYPE	GOVERNING BODY	DATE OF LAST UPDATE

ID No.	CATEGORY	QUESTION REFERENCE	ADDITIONAL INFORMATION
<b>1.0</b>	<b>Information Security</b>		
1.1	Does your organization maintain a security program?		
1.2	Who is responsible for managing the security program?		
1.3	Does your organization have a public information security policy?		Request a link to policy
1.4	What guidelines does your security program follow?		
<b>2.0</b>	<b>Data Center Security</b>		
2.1	Do you work in a shared office space?		
2.2	Is there a protocol in place for operations when your office is inaccessible?		
2.3	Is there a policy in place for physical security requirements for your business?		
2.4	What are the geographic locations of your data centers?		
<b>3.0</b>	<b>Web Application Security</b>		
3.1	What is the name of your web application? What is its function?		
3.2	How do you report application security vulnerabilities?		
3.3	Does your web application have an SSL certificate?		
3.4	Does your application offer single sign-on (SSO)?		
<b>4.0</b>	<b>Infrastructure Protection</b>		
4.1	Do you use a VPN?	National Institute of Standards and Technology (NIST)	

Are we partner or supplier?



# Less control – more trust



**schlijper.nl**  
today

# Experiment: sometimes less is more



Layers of defence or layers of excuse?



We need to talk  
about...

We need to talk  
about.<sup>AI</sup>





1

Who Held You?





Wobble Helps You

Won't Hold You!



# Thank You!



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# THE SAFETY ANARCHIST

RELYING ON HUMAN EXPERTISE AND INNOVATION, REDUCING BUREAUCRACY AND COMPLIANCE



SIDNEY DEKKER



O'REILLY

# Security Chaos Engineering

Sustaining Resilience in Software and Systems



Kelly Shortridge  
with Aaron Rinehart

"A master class in navigating failure."  
—ANGELA DUCKWORTH, #1 *New York Times* bestselling author of *Grit*

# Right Kind



# Wrong

THE SCIENCE OF FAILING WELL

AMY EDMONDSON

Want Homework? Yeah!



Watching?  
Hell  
Yeah!

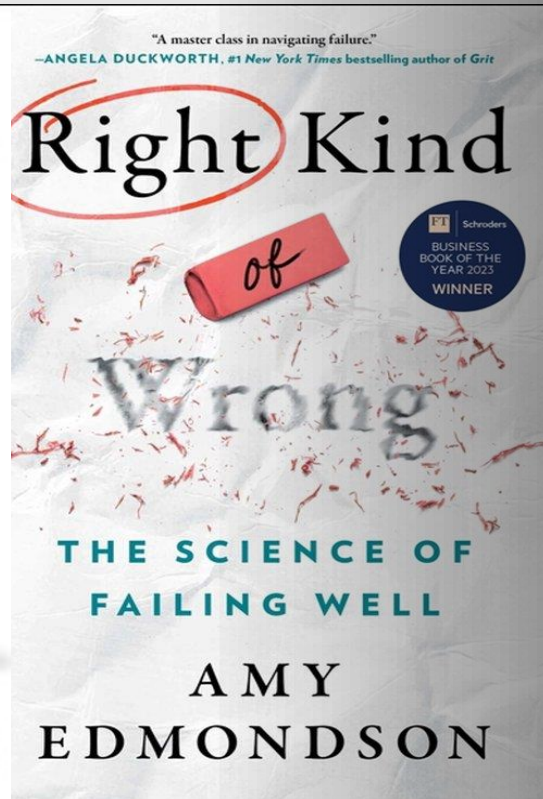
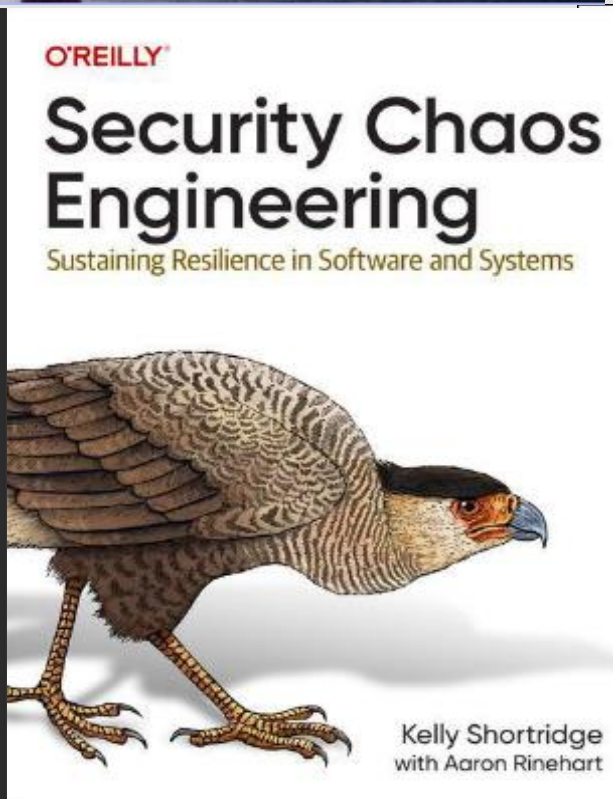
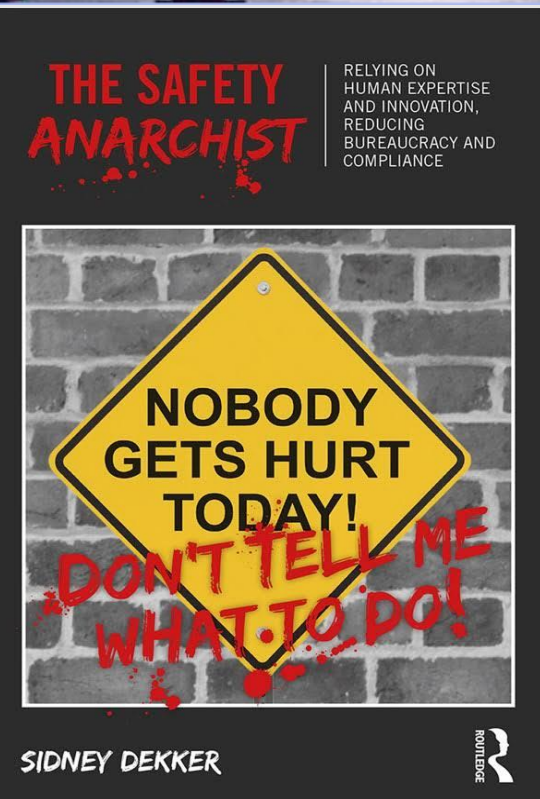


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Will Help You!

