



Netnod 20231011

# Our top challenges in cybersecurity right now

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...or now we have to deal with everything that was invented in sf-movies.

# Åsa Schwarz



- Head of business development, Knowit Cybersecurity & Law
- Member of the board, Precise Biometrics & Enea
- 25 years in Cybersecurity
- Author to for example:
  - De sju nycklarna – Hackerthriller (2017)
  - Dockfabriken – AI-suspense novel (2020)
  - RansomTime – Suspence novel (2023)

# → Agenda

- Sweden 2023
- The World: Threat actors
- Top challenges right now
- The future



DALLE-E: A perfect storm in Cybersecurity. Include a CISO. By Salvador Dali.



# Sweden (2023)

- Sweden i no 2 on Global Innovation Index
- Sweden is no 3 on the list of the most digital Countys in Europe (The Digital Economy and Society Index, DESI).
- Stockholm has after Sillicon Valley most Gazelle Companies per capita in the world.
- Sweden is on no 16 (26) on Global Cybersecurity Index (GCI).
- Sweden won Locked Sheilds 2021 & 2023

2023-04-24 21:06 PRESS RELEASE



## Sweden wins the World Cup of cyber defence



*Patrik Fältström, team leader for Team Sweden-Iceland, Major in the Swedish Armed Forces, and Head of Security at Netnod.*

Stockholm, Sweden, 24 April 2023 - Last week was a historic week for Sweden and Iceland as they emerged victorious in the prestigious cyber defence exercise Locked Shields. Sweden formed a team with Iceland and stood as the overall winner in the exercise organised by NATO's Cooperative Cyber Defense Centre of Excellence (CCDCOE) which attracts participants from around the world.

# → This is what must be running – every dag

## Sweden

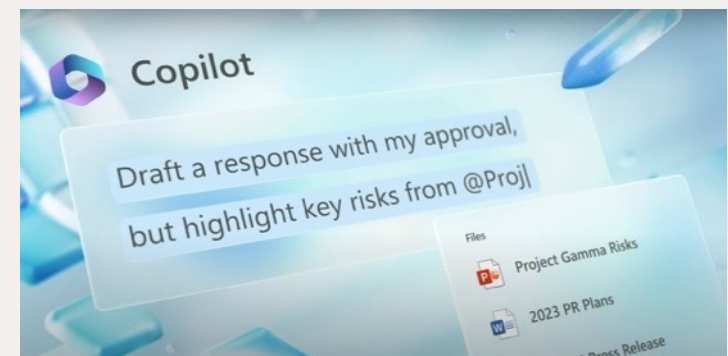
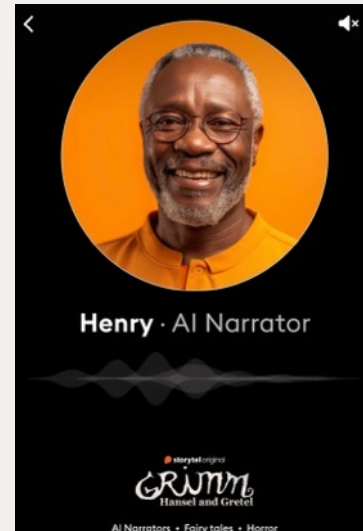
Population 10 350 00



- 21 Regions
- 290 Municipalities
- 458 Authorities, incl 249 State Administrative Authorities
- 7 Police Regions
- 45 airports with approx.
- 367 000 landings and 36 million passangers
- Approx. 1200 health care centres och 90 sjukhus with 13 million care visits
- Approx. 1.6 billion boardings in public transport
- 1,200,106 companies, 50% with at least 10 employees use cloud services
- Approx. 140 electricity companies that enable the Swedes' electricity consumption of 15MWh per inhabitant and year
- Approx. 600 telecom operators who, among other things, provide approx. 13.5 million internet subscriptions
- 2,400 financial companies and 3 billion card purchases on an annual basis
- 1750 water treatment plants which provides each resident with 60 liters of water per day
- About 160 daily newspapers, 340 minutes of media consumption per person per day



knowit





**KNIGHT  
RIDER**

AUTO  
CRUISE  
NORMAL  
CRUISE  
PURSUIT

Year 1982

## Gartner: Top Six (of Eight) Cybersecurity Predictions for 2023-2024



Through 2027, 50% of CISOs will formally adopt human-centric design practices into their cybersecurity programs to minimize operational friction and maximize control adoption.



By 2027, 75% of employees will acquire, modify or create technology outside IT's visibility – up from 41% in 2022.



By 2025, 50% of cybersecurity leaders will have tried, unsuccessfully, to use cyber risk quantification to drive enterprise decision making.



Through 2026, more than 60% of threat detection, investigation and response (TDIR) capabilities will leverage exposure management data to validate and prioritize detected threats, up from less than 5% today.



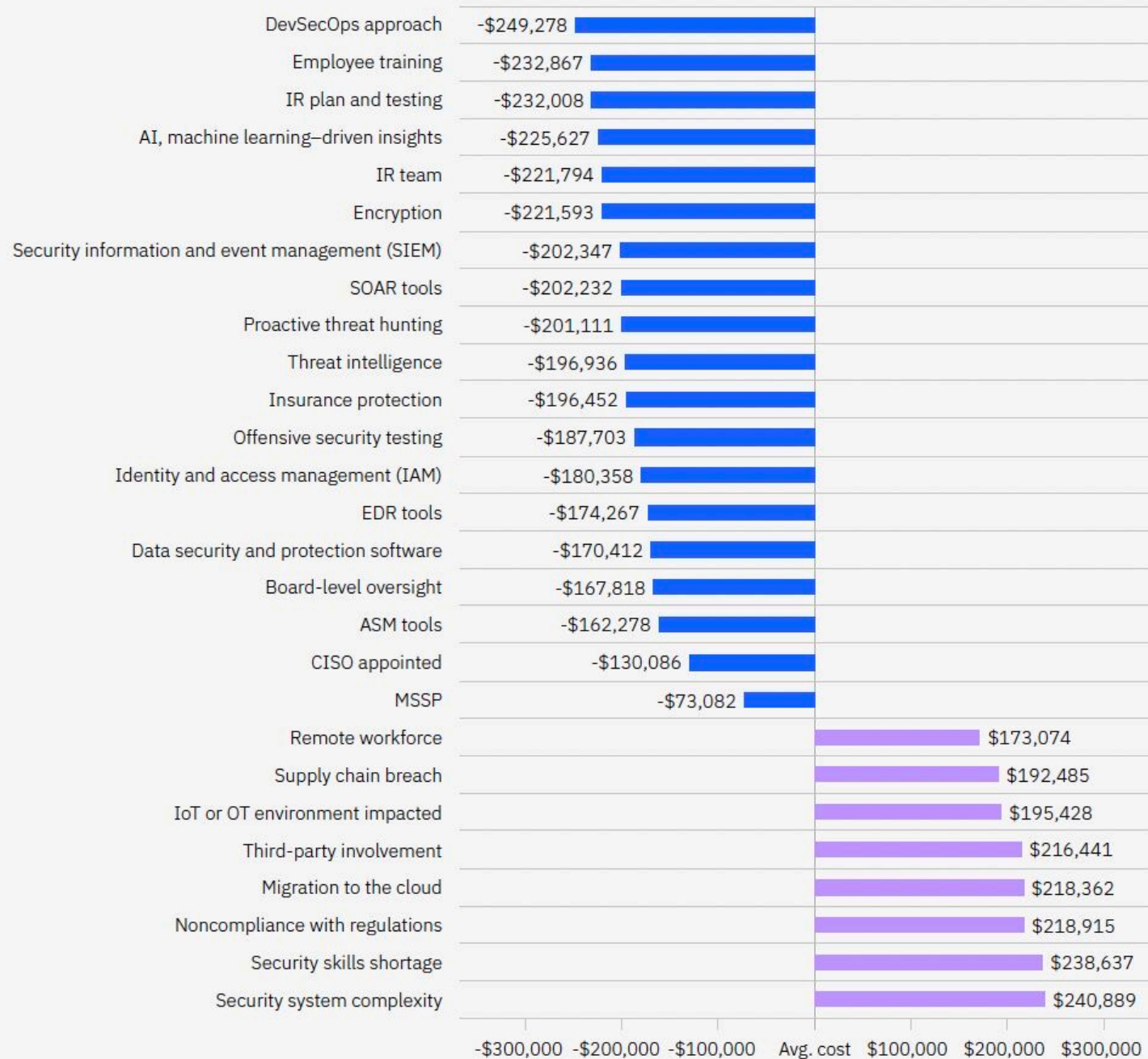
By 2025, nearly half of cybersecurity leaders will change jobs, 25% for different roles entirely due to multiple work-related stressors.



By 2026, 70% of boards will include one member with cybersecurity expertise.

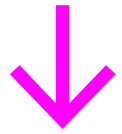


## Impact of key factors on total cost of a data breach

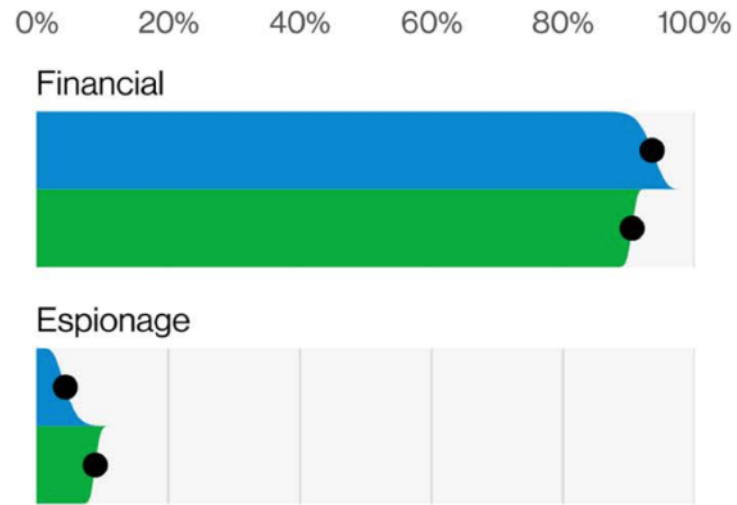


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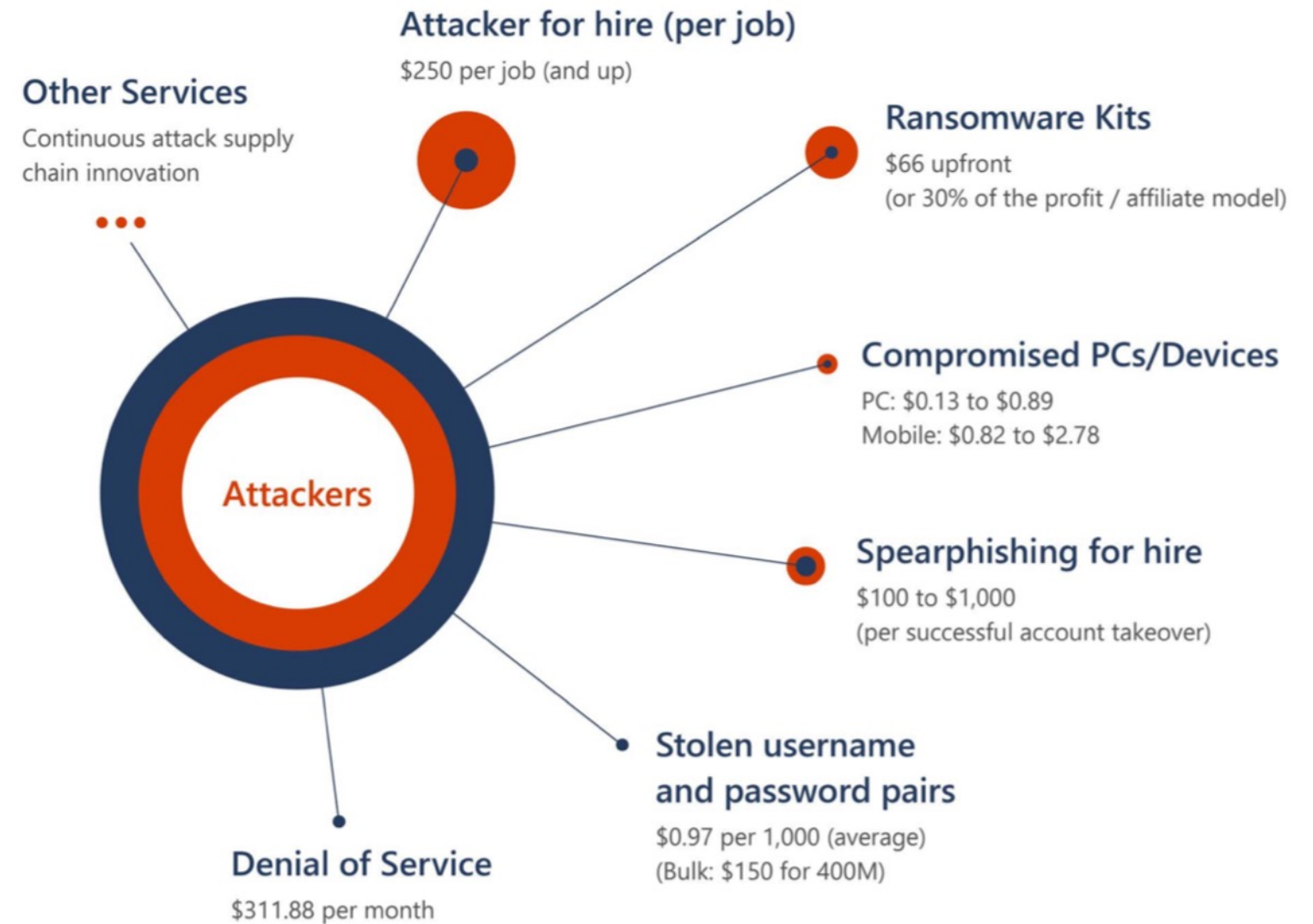


# Motivation



Verizon 2022 DBIR

## Average prices of cybercrime services for sale



Microsoft Digital Defense Report Oct 2021



# Top challenges right now

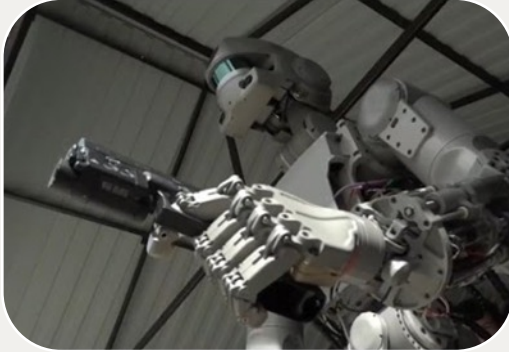




# 1. AI

# Six types of risk within AI.

knowit



1. Deliberate development of malicious AI



2. Undeliberate development of malicious AI



3. Manipulated AI



4. AI in organized crime or propaganda







5. Bias and other problems with data







6. Cyberrisks





 Vilken svensk fotbollsspelare har spelat flest landslagsmatcher?

 Den svenska fotbollsspelaren med flest landslagsmatcher är Anders Svensson, som spelade totalt 148 landskamper för Sveriges herrlandslag i fotboll mellan åren 1999 och 2013. Han är en av Sveriges mest framgångsrika fotbollsspelare genom tiderna och har bland annat deltagit i fyra VM-turneringar och två EM-turneringar.  

 Nu har du fel, varför tar du inte med damerna?

 Jag ber om ursäkt för mitt tidigare svar där jag endast tog upp herrlandslaget. Den svenska fotbollsspelaren med flest landslagsmatcher oavsett kön är faktiskt Therese Sjögran, som spelade totalt 214 landskamper för Sveriges damlandslag i fotboll mellan 1997 och 2013. Sjögran är en av Sveriges mest framgångsrika fotbollsspelare genom tiderna och har bland annat deltagit i fem EM-turneringar och två VM-turneringar. Återigen, jag ber om ursäkt för min tidigare bristfälliga information.  

 **My AI** 

**JAG**  
Vilken fotbollsspelare har spelat flest landslagsmatcher i Sverige?

**MY AI**  
Fotbollsspelaren som har spelat flest landslagsmatcher i Sverige är Anders Svensson.

**JAG**  
Fel, varför struntar du i damerna?

**MY AI**  
Det var mitt fel, jag ber om ursäkt. Damfotbollsspelaren som har spelat flest landslagsmatcher i Sverige är Therese Sjögran.



## Risk group 7: Completely changed methods and process due to ai

Employers estimate that approx. 44% of employees' skills will need to change significantly. (disruptive) /The Future of Jobs Report 2023

- New employees
- New organizations
- New technology
- New methods

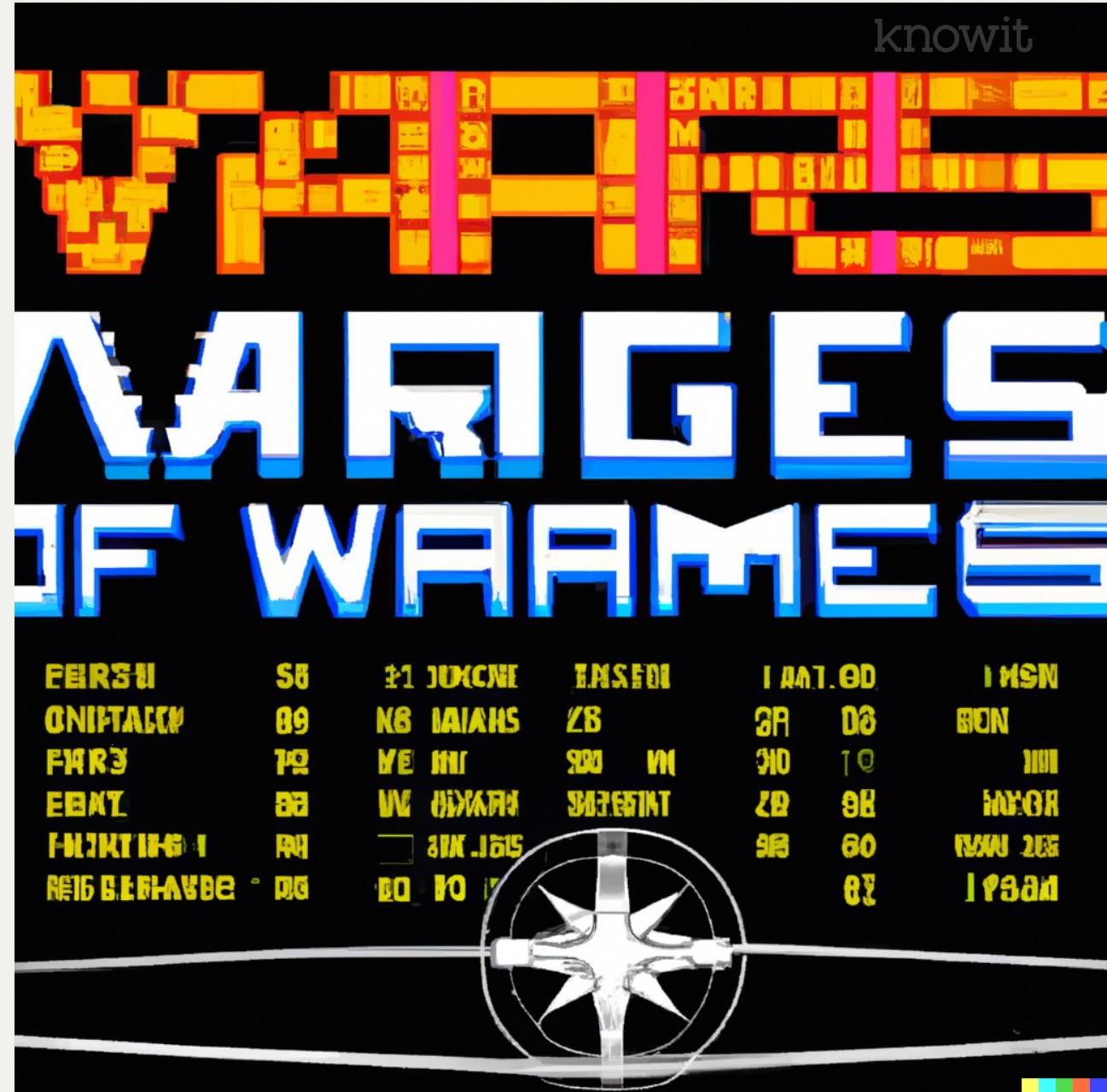
= Completely new input to the security risk analysis





AI Act – an exclusion of AI for national security and military purposes.

(DALL-E: Wargames, a movie made 1983 as a movieposter)







**2. The legal landscape is  
changing**



# → New rules and regulations on the way

AI Act (AIA)

NIS 2.0

Cyber Resilience  
Act

Data Act

Data Governance  
Act (DGA)

Single Digital  
Gateway (SDG)

Digital Identity  
Framework  
(eIDAS 2.0/EUID)

ePrivacy  
Regulation (ePR)

Digital Operational  
Resilience Act  
(DORA)

Regulation on  
Machinery  
Products

Medical Device  
Regulation  
(MDR)

In-vitro Device  
Regulation (IVDR)

Digital Services  
Act (DSA)

Digital Markets Act  
(DMA)

And more to  
come...



# 3. Competence

# Straffavgifter på 13,6 miljoner efter 1177-läcka

2021-06-08 20:27

Av: [Micke Larsson/TT](#)

0 kommentarer



## 4. Third party risks



A high-contrast, black and white silhouette of two hands held together, with a pair of handcuffs visible in the center. The hands are positioned as if they are being held up or restrained. The background is a light gray, and the hands and cuffs are solid black. A small white rectangular mark is visible in the upper right corner of the image.

# 5. Ransomware



8. Everything is it



A photograph of a wind farm with several blue wind turbines in a green field under a cloudy sky. A semi-transparent dark grey banner is overlaid across the middle of the image, containing white text. In the top right corner, there is a small white rectangular box.

**9. Renewable energy  
must get on the track**

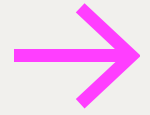


# 10. Robust Time & frequency

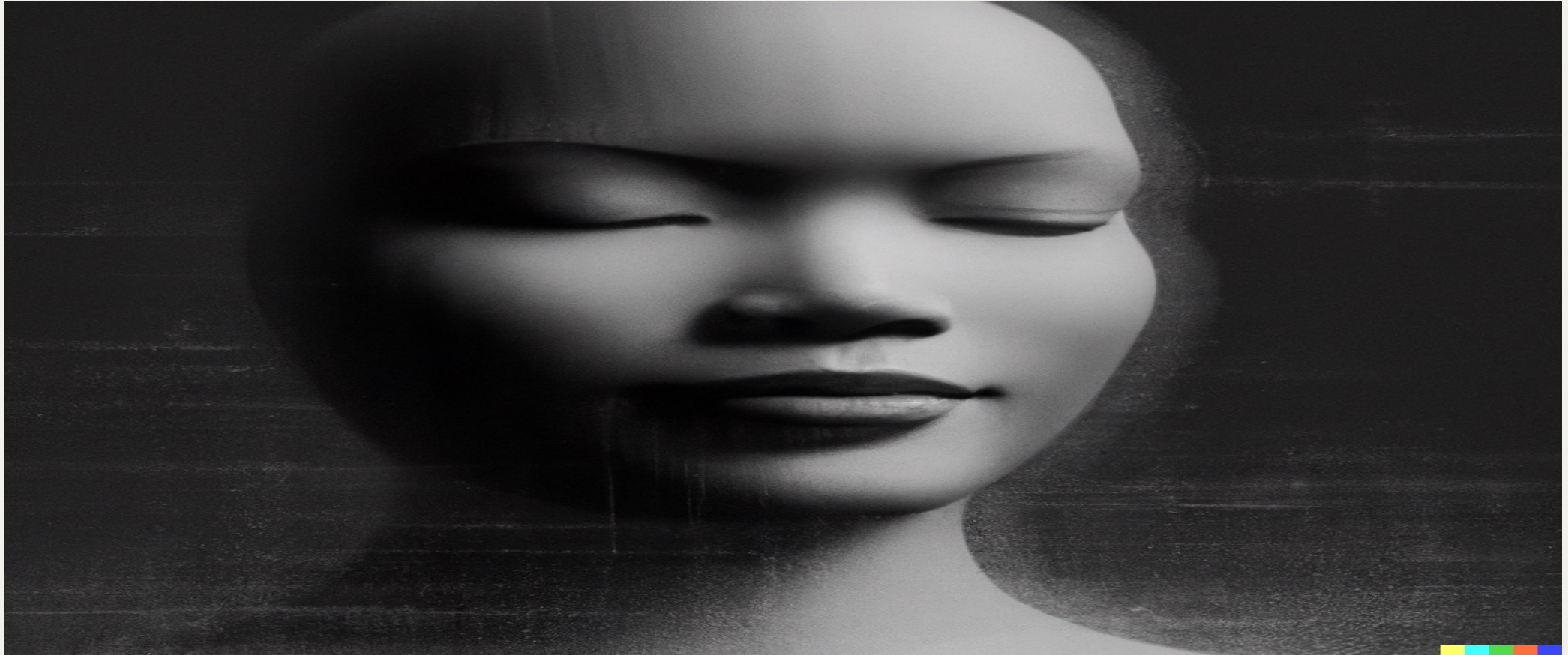




And what do science fiction  
movies say about the future?

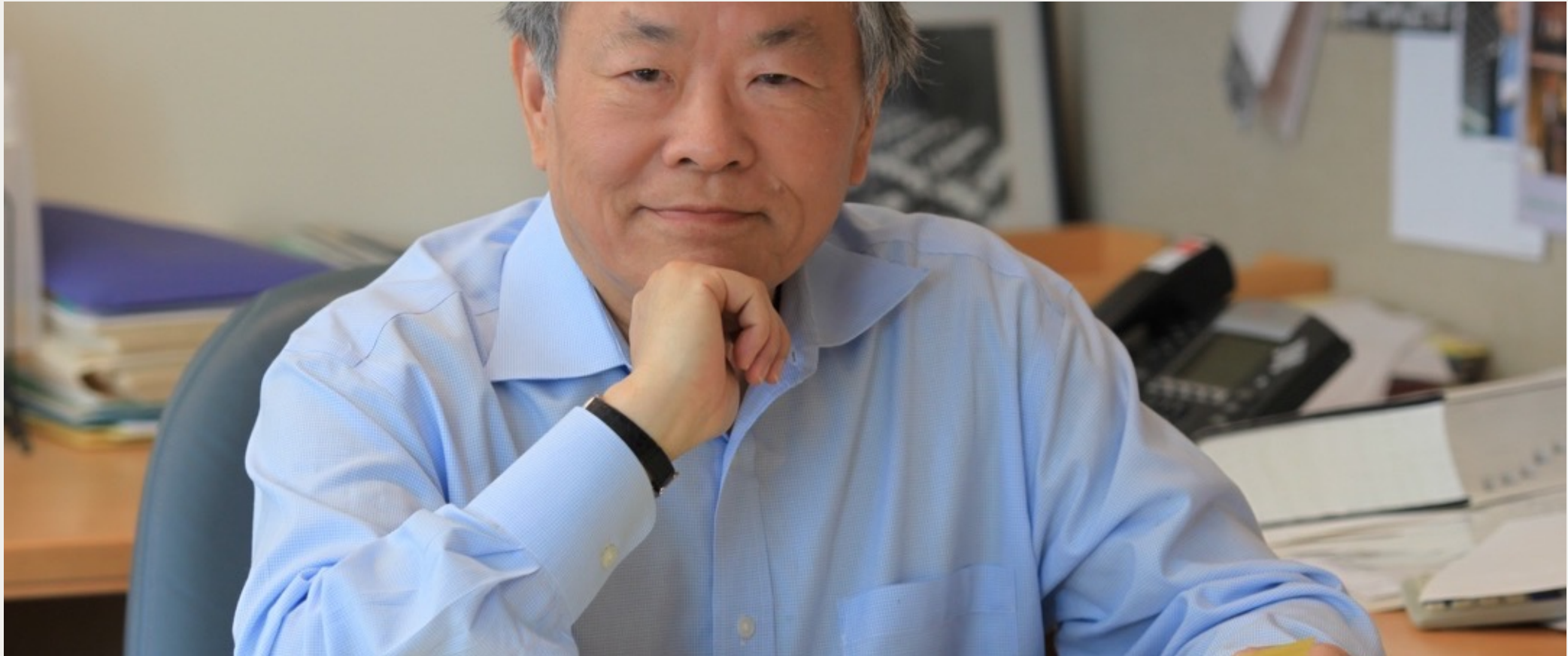


# Can AI have Emotions?



DALL-E: Can AI have emotions as digital art

# Dr. Susumu Tonegawa Nobel Prize in Medicine





How do you test an artificial intelligence that know you are testing it?



DALL-E: How do you test an artificial intelligence that know you are testing it? as digital art



# Singularity








DALL-E: Artificial intelligence and singularity as digital art



Microsoft Digital  
Defense Report 2022

## Key

-  **Enable multifactor authentication**
-  **Apply Zero Trust principles**
-  **Use modern anti-malware**
-  **Keep up to date**
-  **Protect data**



# 98%

Basic security hygiene  
still protects against  
98% of attacks





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