Cybersecurity for Agriculture

Internet Policy Research Initiative

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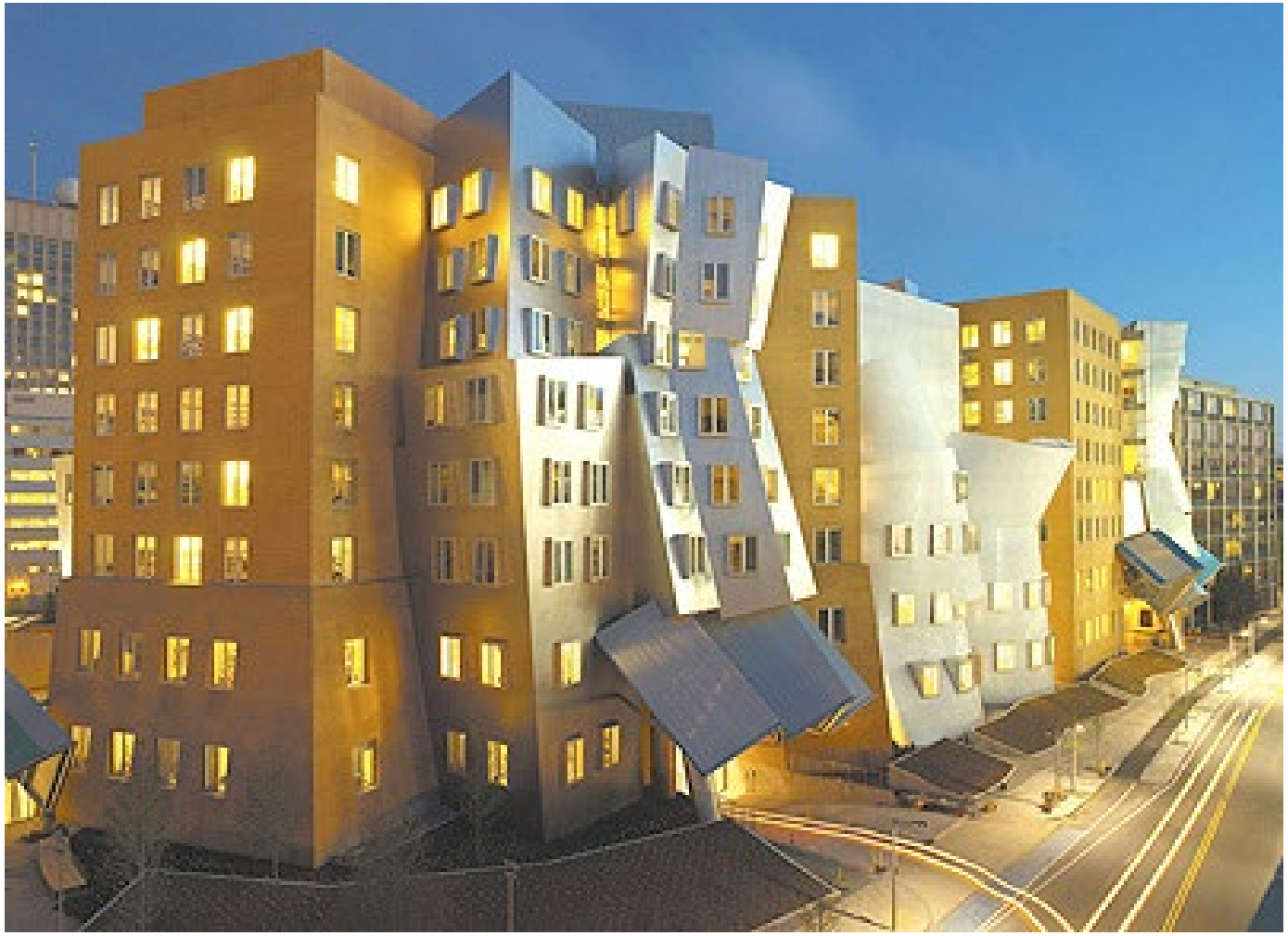
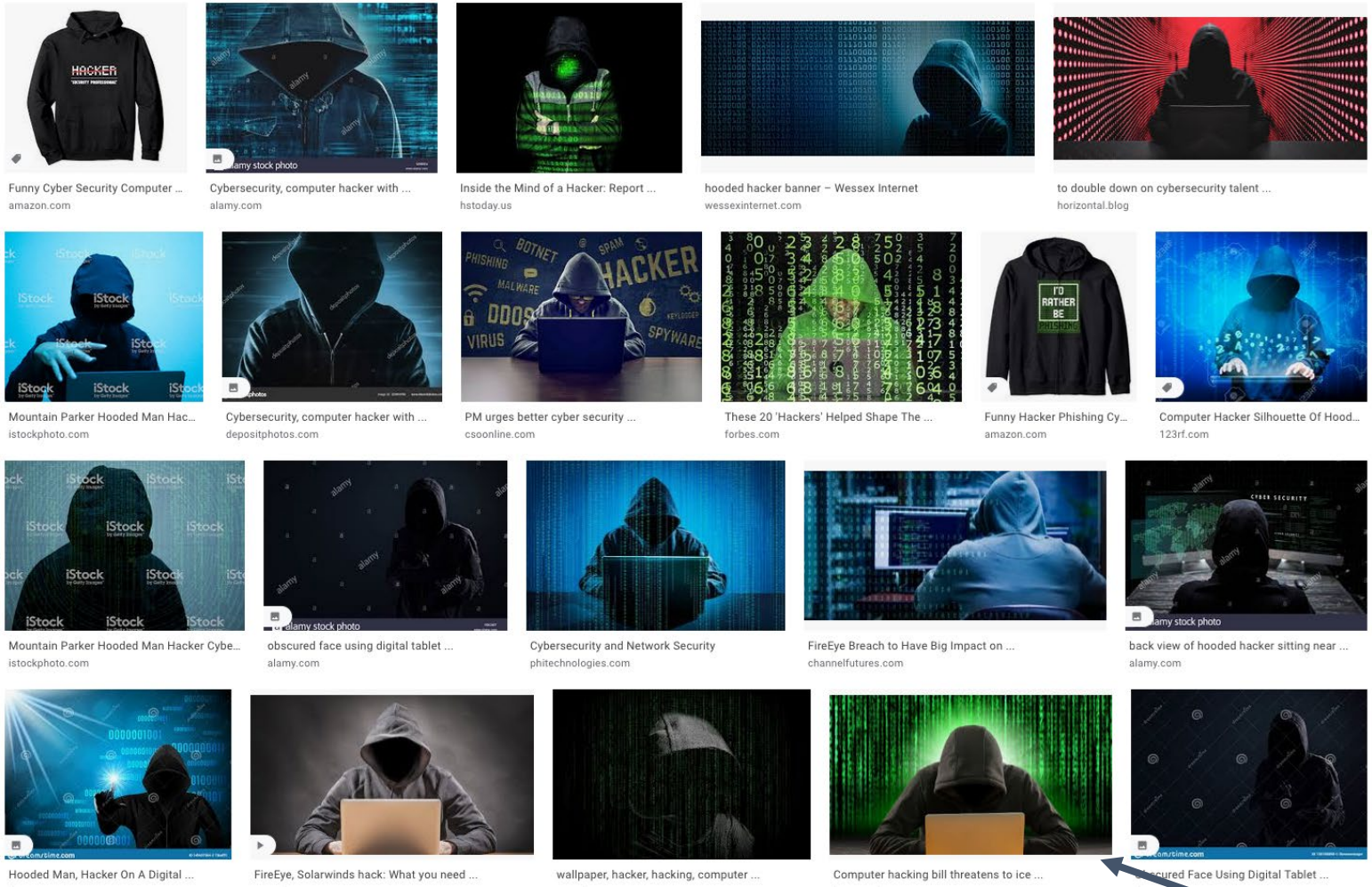


Cybersecurity: Hooded hacker?

Always need a "Hooded hacker"



Pictures with "binary code" is an added bonus

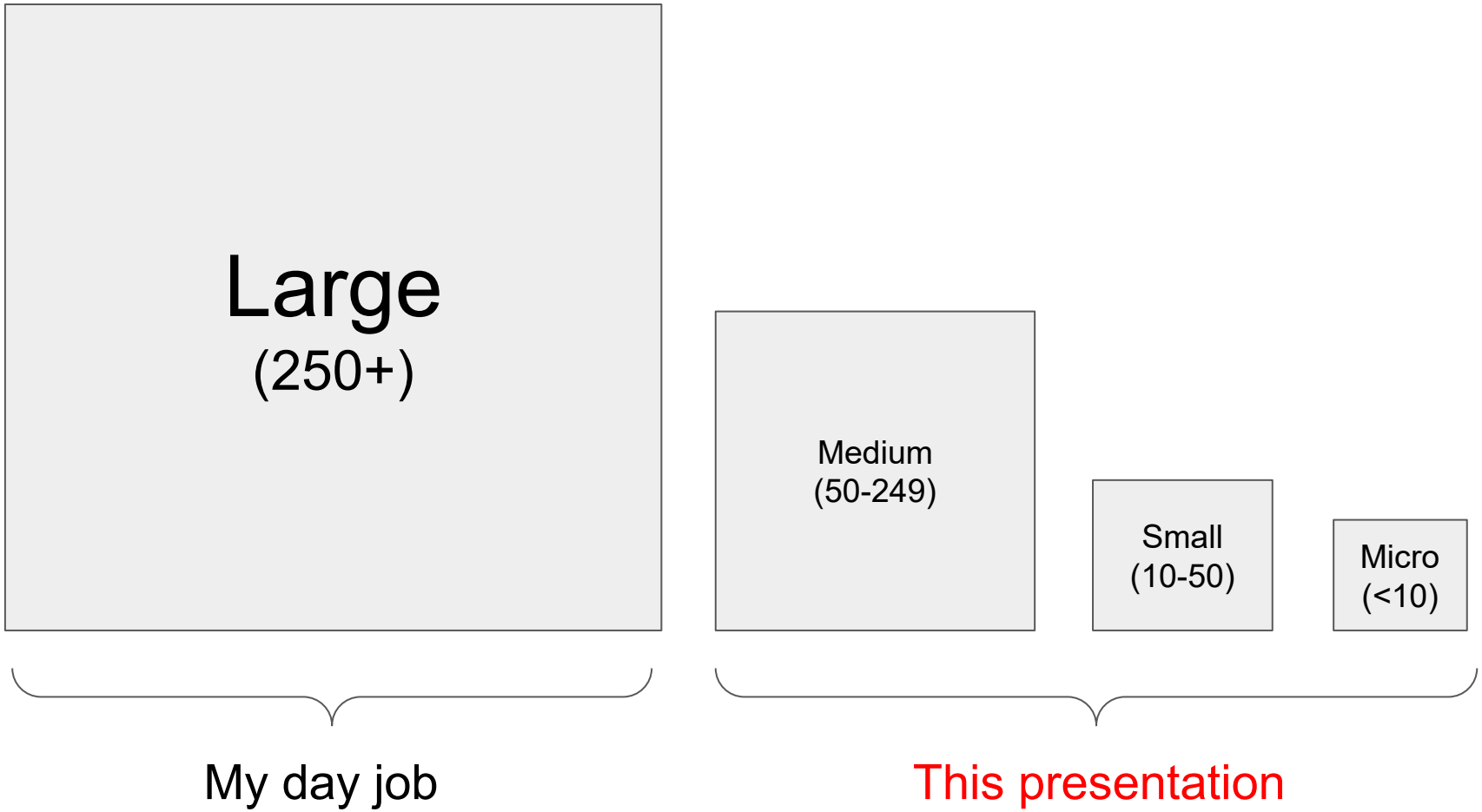
Cybersecurity: Scary big numbers?

This is not one of those presentations

Cyber attacks are indeed a big and complex problem

MIT SCRAM project - Measuring cyber risk

Security needs differ by the size of the firm

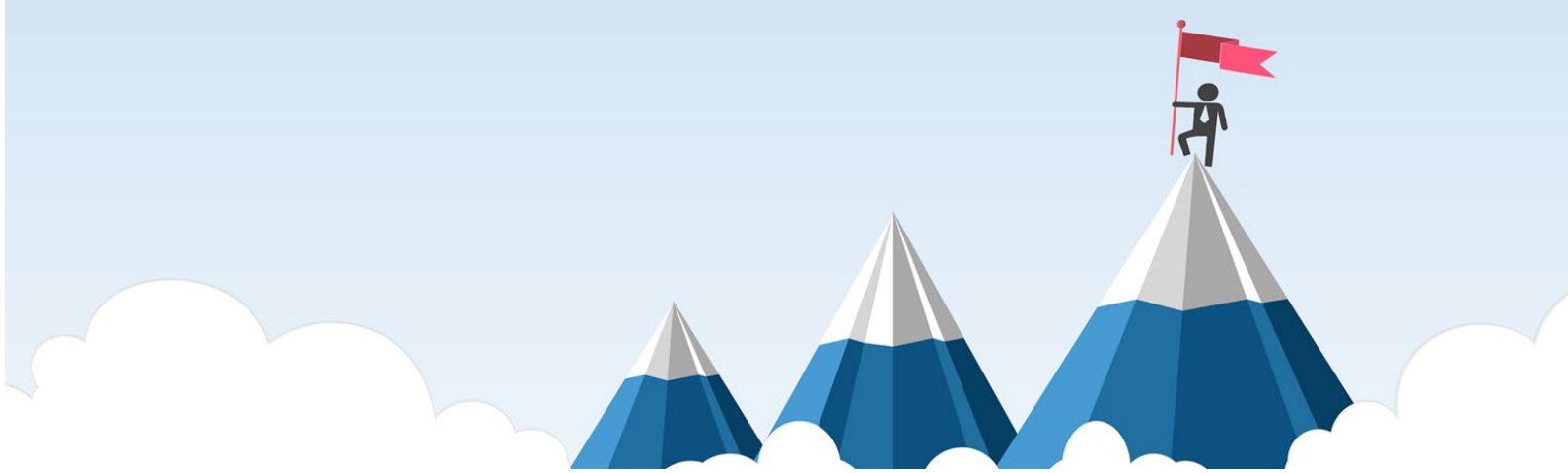


Agriculture has always used cutting-edge technology

- Smart farming
- Sensors & control systems
- IoT
- Robotics
- Drones
- Precision agriculture

Key recommendations for micro, small and medium enterprises

Key goals

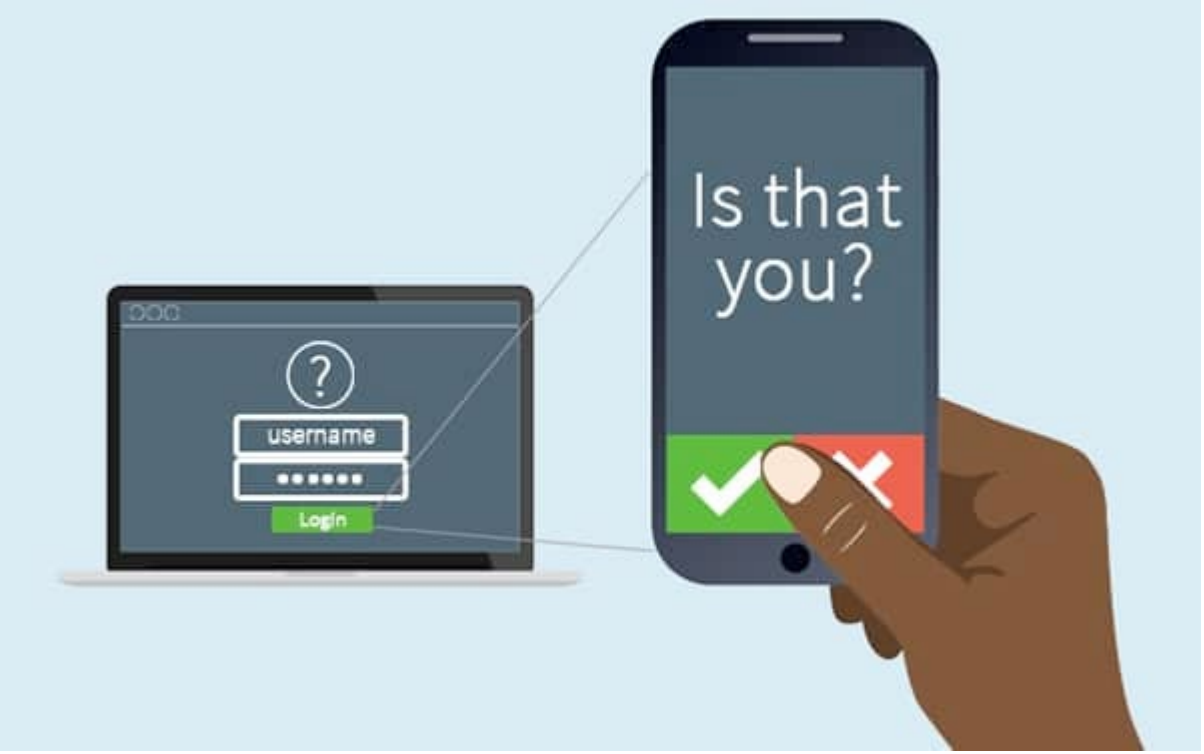


1. Take steps to keep attackers out
2. Don’t let them get away with much if they do make it in
3. Build in resilience to recover from attacks quickly

1.Steps to keep attackers out

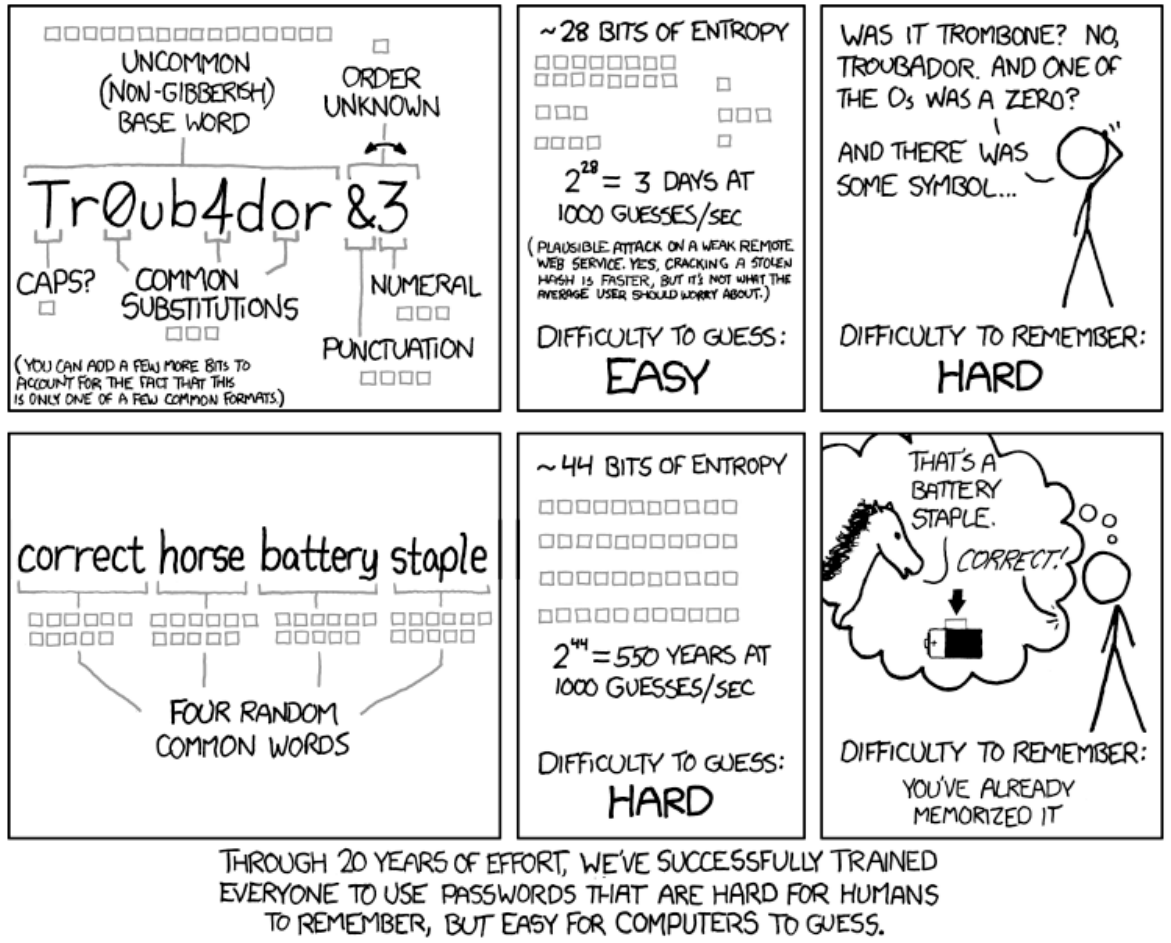
Turn on two-factor authentication (2FA)

Your accounts should have two-factor authentication required for logins. That means anyone accessing the account needs the password + a code that is texted to their phone or created on a rotating basis by an authenticator app.



Use good password hygiene & password managers

Make applications that do password management available to employees (e.g., LastPass, KeePass) and teach them to use strong and unique passwords for each of their accounts and logins.



https://xkcd.com/936/

Teach employees about phishing/malware

The most common attack vector is getting employees to click on links in phishing emails.

Reducing these dangerous clicks that infect a computer and then propagate across the network are critical to keeping attackers out.

Effectively apply software updates & patches

Firms should make sure that they have a plan in place to apply software updates and patches to their systems and machines quickly and efficiently.

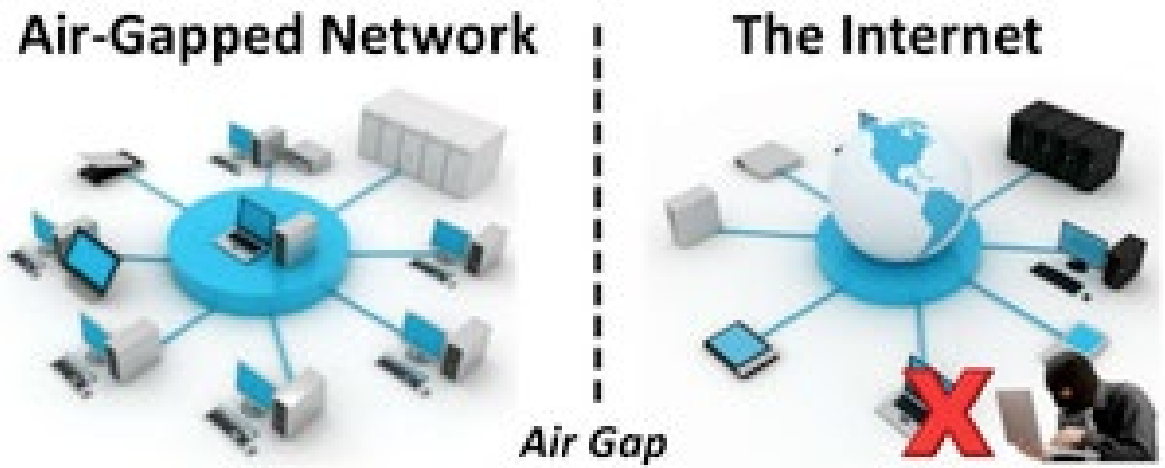
Unpatched systems leave security holes open.

2. If they get in, they can’t get much

Only systems that need it get Internet access

One of the best ways to protect critical systems is to keep them disconnected from the Internet.

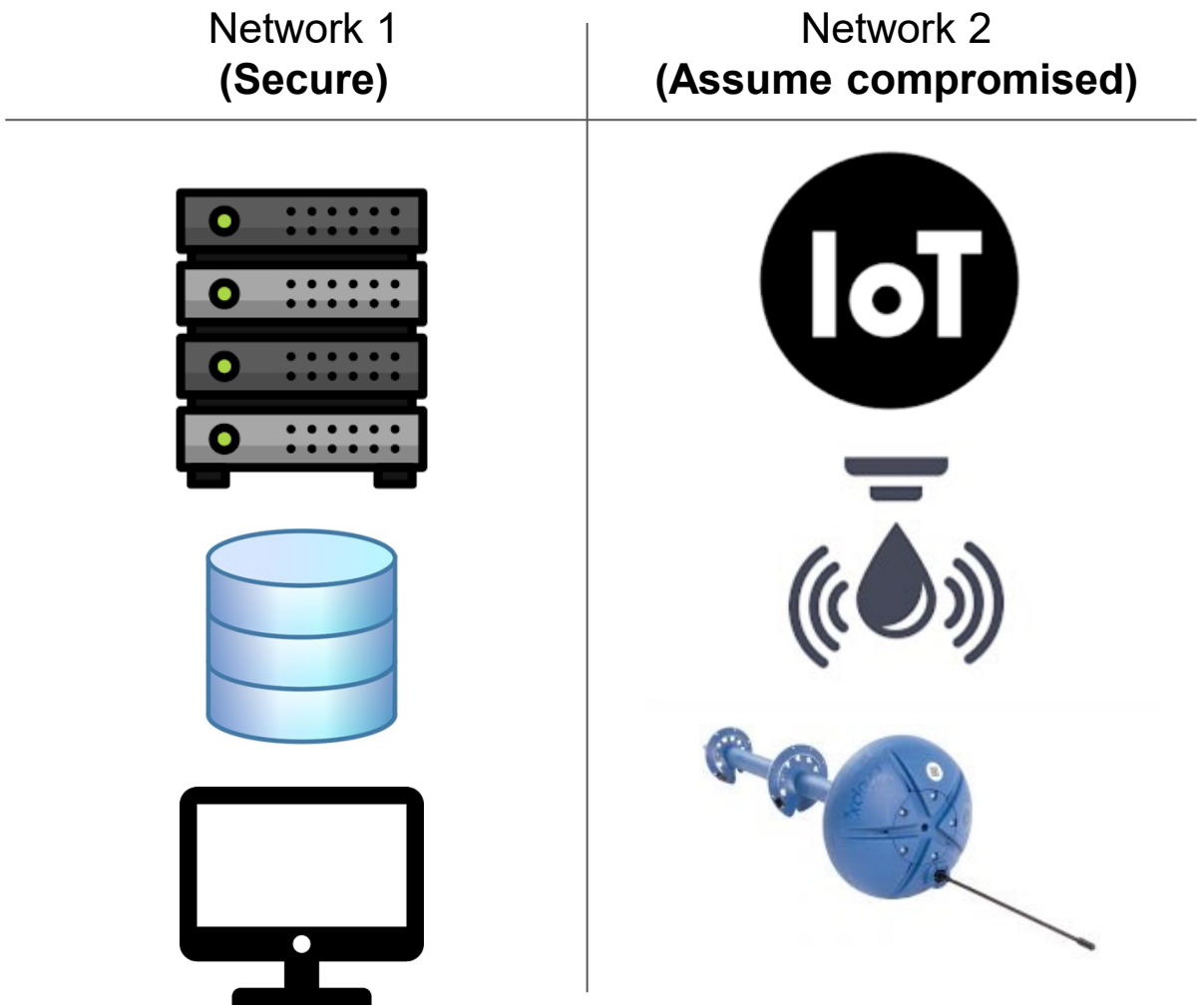
This is called “air gapping” because it puts physical distance between the connected parts of the network and critical/valuable systems.



Create a separate network for IoT/sensors/controls

Assume that hackers will be able to get into your sensor network and IoT devices.

Keep critical business systems and sensitive data on a separate network and never connect the two.



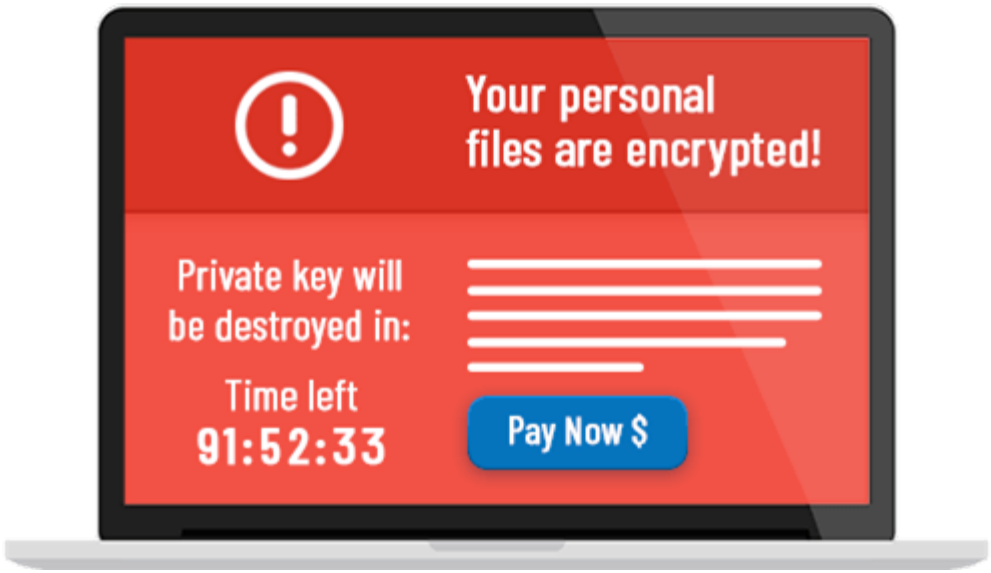
3. Be able to recover quickly

Perform regular backups

Ransomware is where hackers lock your data and require payment to release it (or not). It is currently the most common cyber attack we see.

Regular & frequent backups are your best defense and use the 3-2-1 rule:

3 copies
2 media (cloud, hard drive, tape)
1 located offsite



Conclusion

Cybersecurity is a challenging problem, but these simple steps can reduce your exposure significantly

Thank you