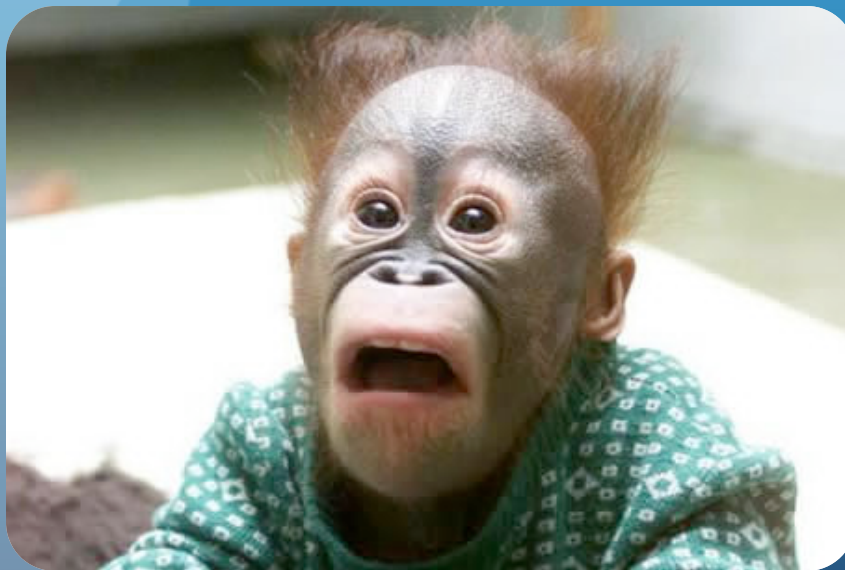


# Beyond Information Warfare: *Hack Early. Hack Hard.*

*"We are still defending against the past.  
To defend, you have to know how to attack."*



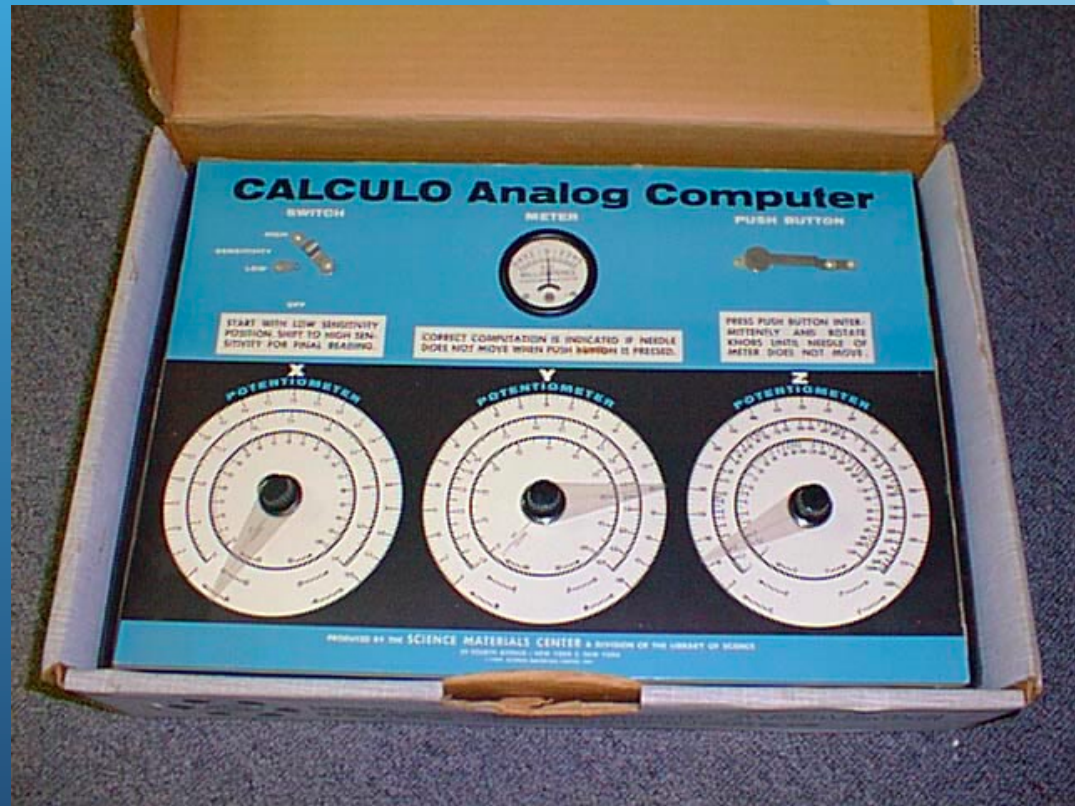
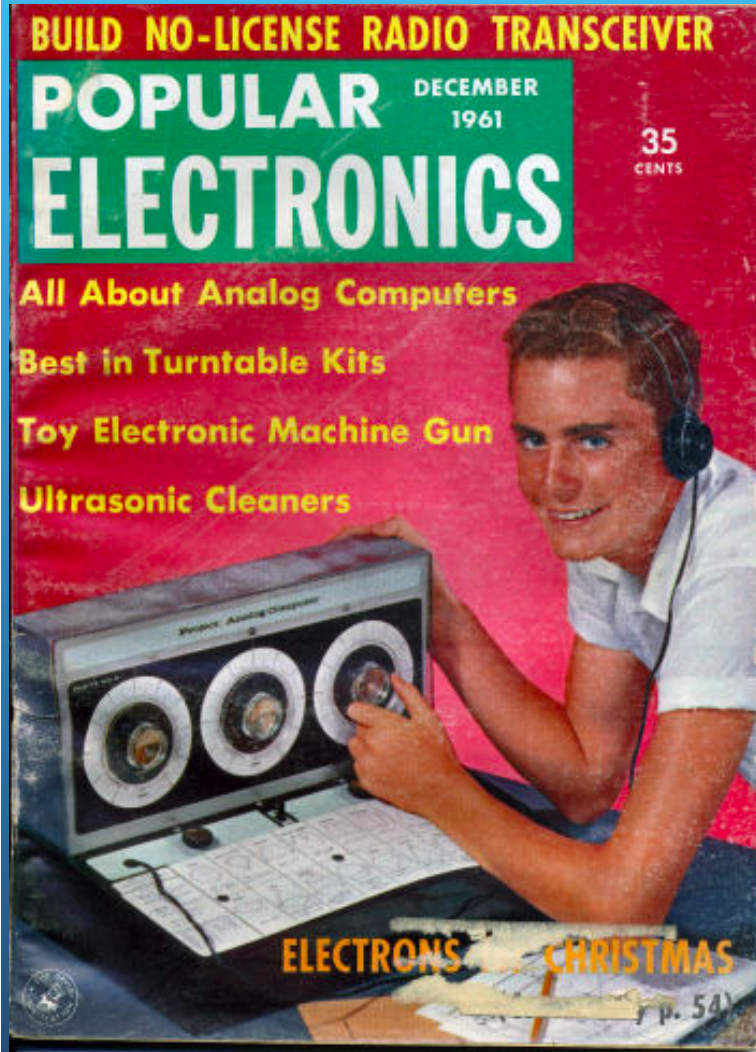
Winn Schwartau

# My First DefCon





# 1961

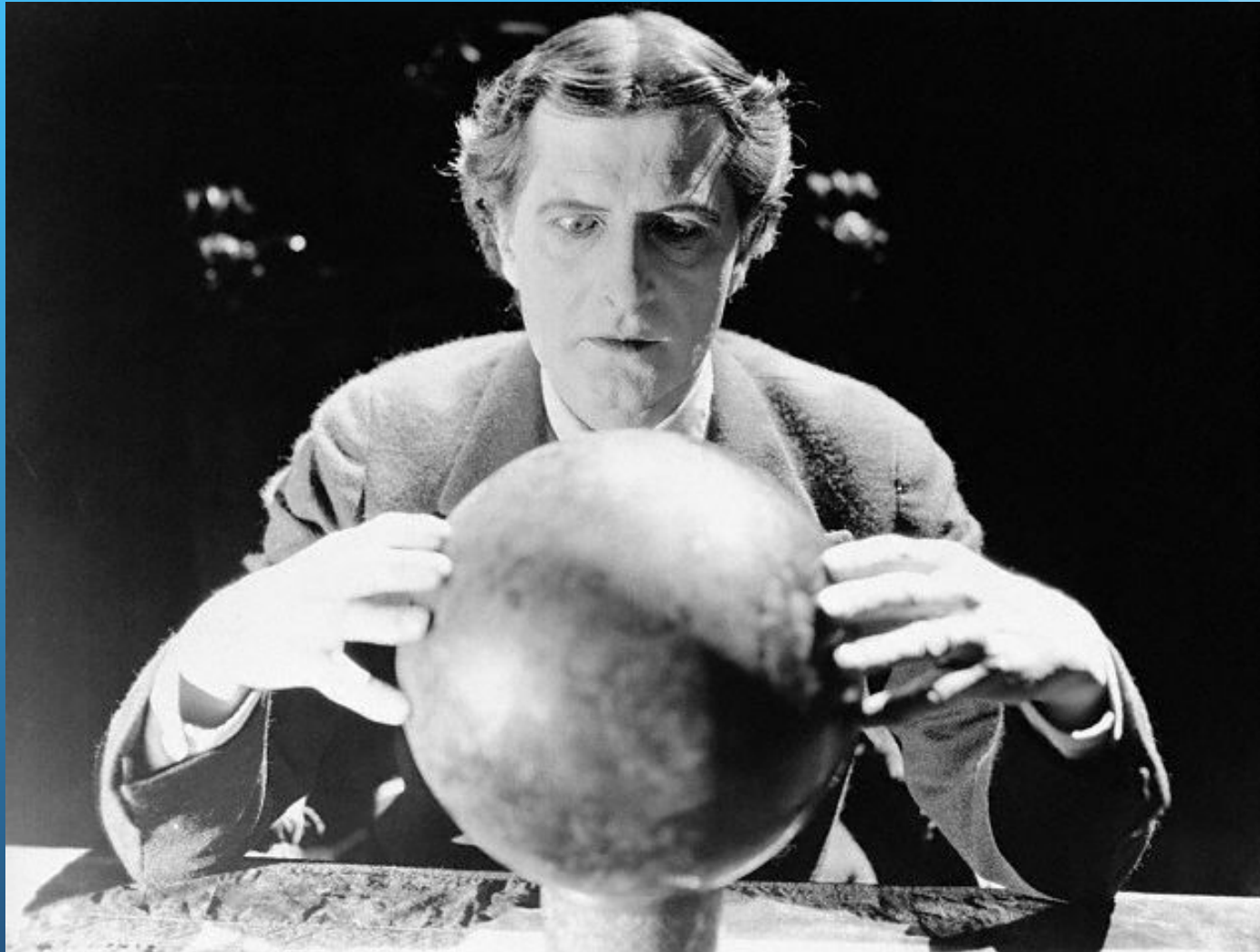


# I Grew Up Analog



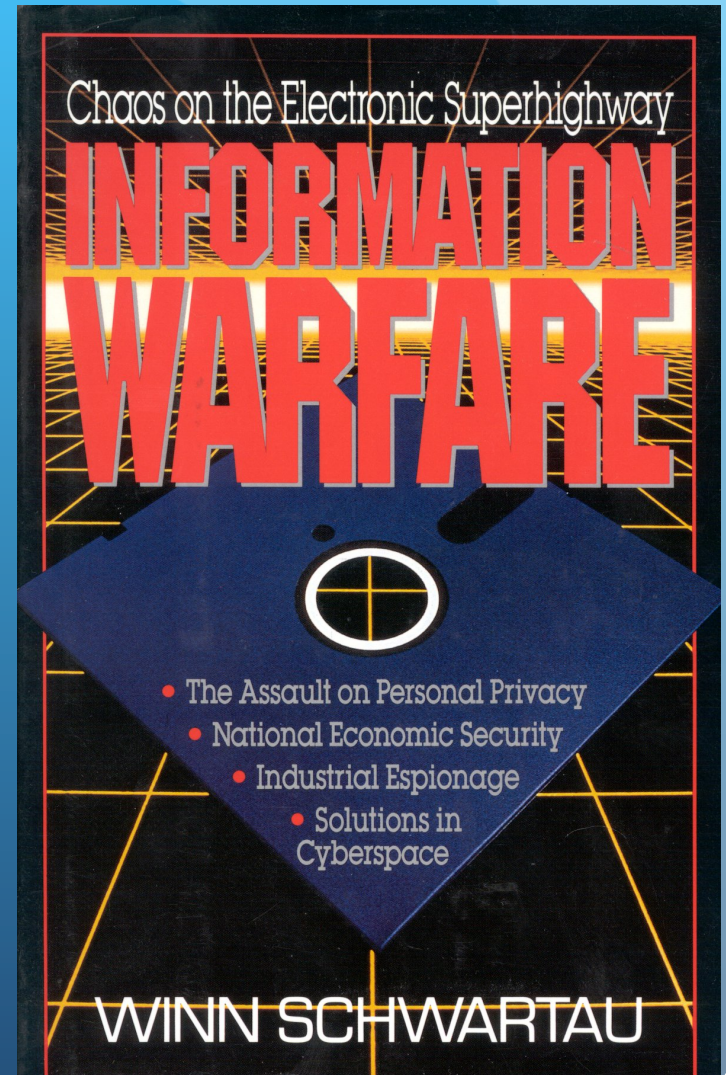


Let's Go Back to 1988-1992



# CyberWar: 1991

- Class I
  - ★ *Personal Privacy*
- Class II
  - ★ *Espionage*
- Class III
  - ★ *Nation State*



WINN SCHWARTAU



# Apathy, Arrogance & Ignorance



- *“We don’t have to worry as much about hackers as we do about organized groups who are much more well organized, well funded, and well motivated who may have real reasons to penetrate systems for either economic or industrial advantage.”*

Winn Schwartau, June 27, 1991, US Congress

# Technical Predictions: 1988-1992

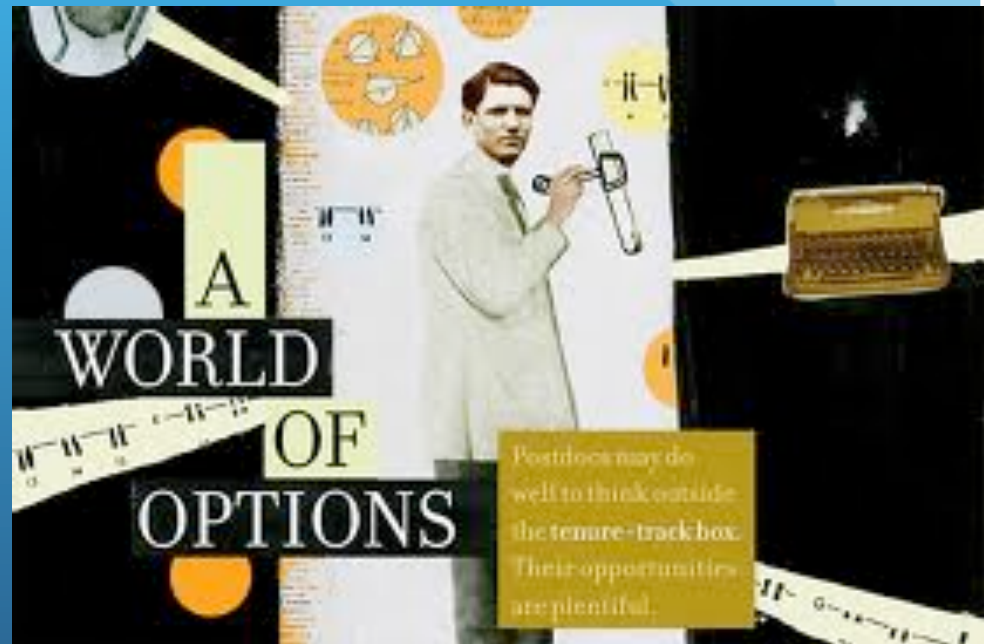
- Malware as a form of war and criminal enterprise
- Chipping
- HERF Technology
- Cyber Civil Disobedience
- DOS/DDoS Attacks
- Deception Technology



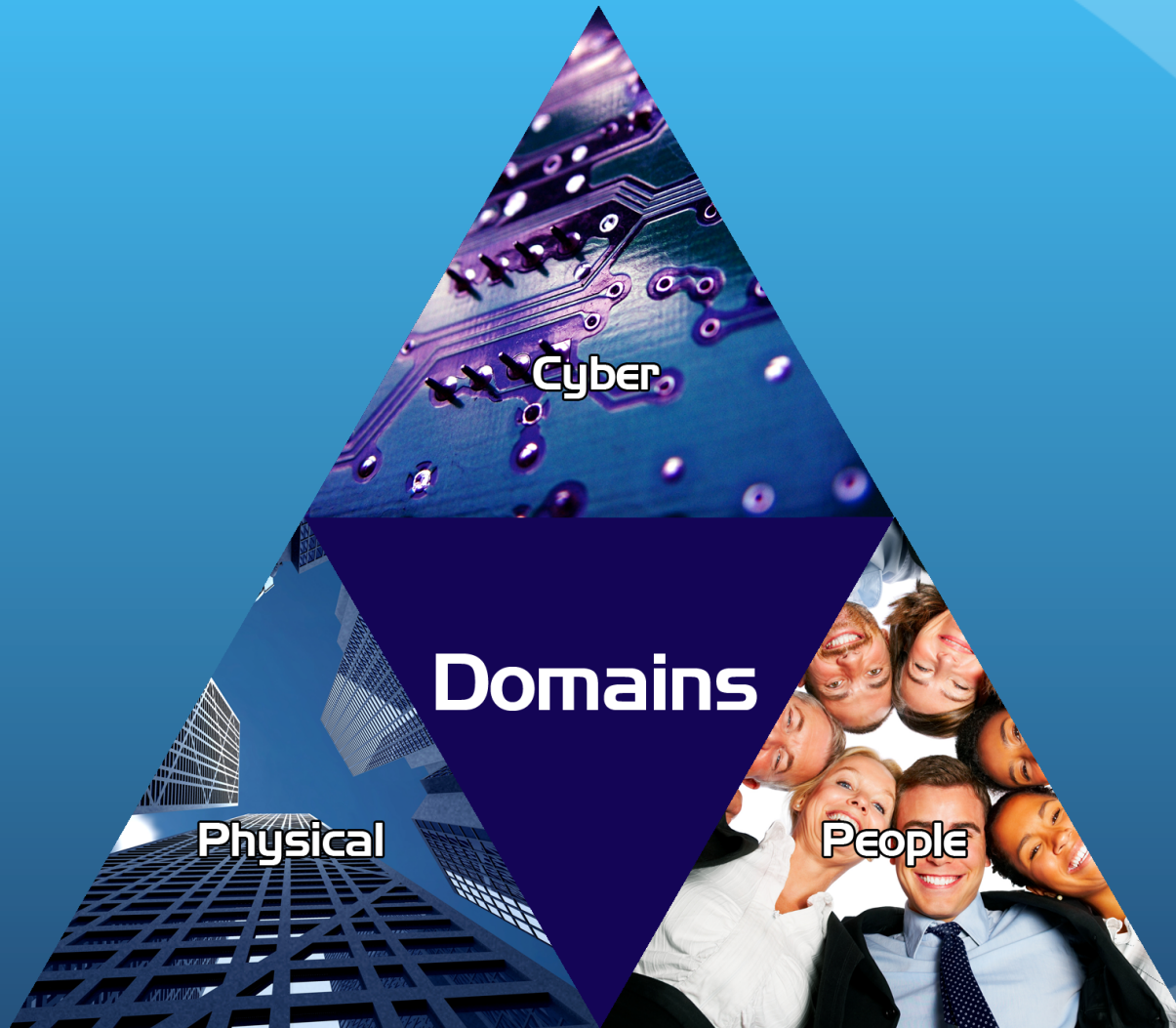


# Non-Technical Predictions

- Economy is a National Security Asset
- Electronic Bill of Rights
- U.N. for Cyber
- Redefine National Security Threat
- Build a Secure Infrastructure
- Vigilantism
  - ★ Private or National



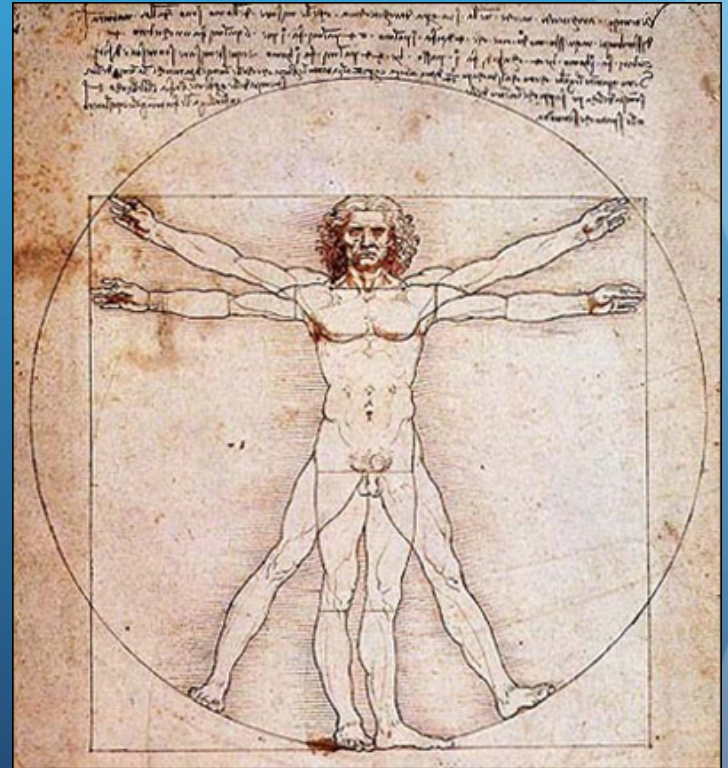
# Convergence: Privacy & Security





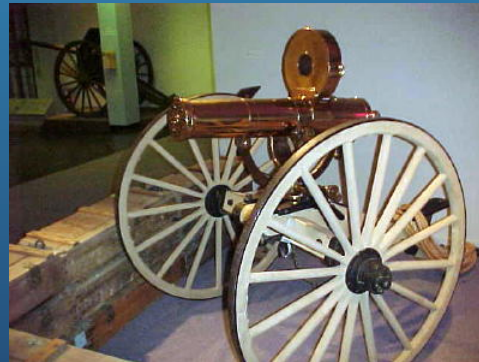
# He Who Has The Will To Use Next Generation Technological Weapons Will Be Victorious

*He who doesn't, loses.*



# Weaponizing 'New' Technologies

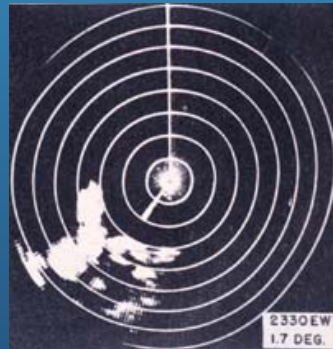
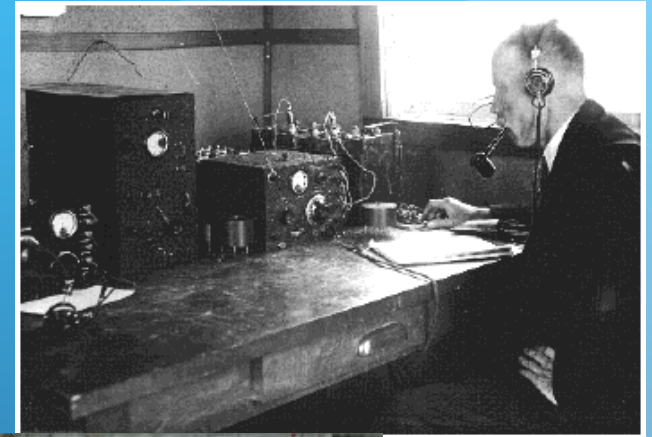
- Bronze
  - ★ Replacing by Iron ~ 1500BCE
- Kinetic Projectile Weapons (Guns)
  - ★ Western US Expansion
- Gatling Gun ~ 1860CE
  - ★ US Civil War
- Aircraft
  - ★ WWI





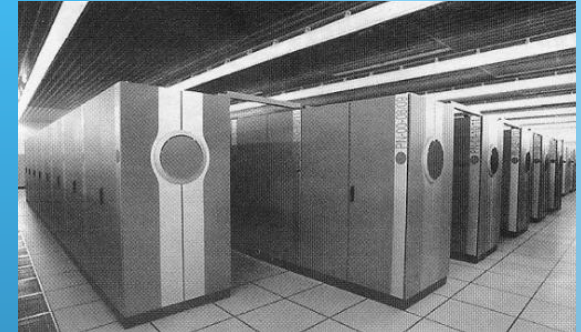
# More 'New' Technologies

- Radio Communications
  - ★ ~1905CE
- Radar Detection
  - ★ ~1939CE
- Atomic Weapons
  - ★ ~1950CE



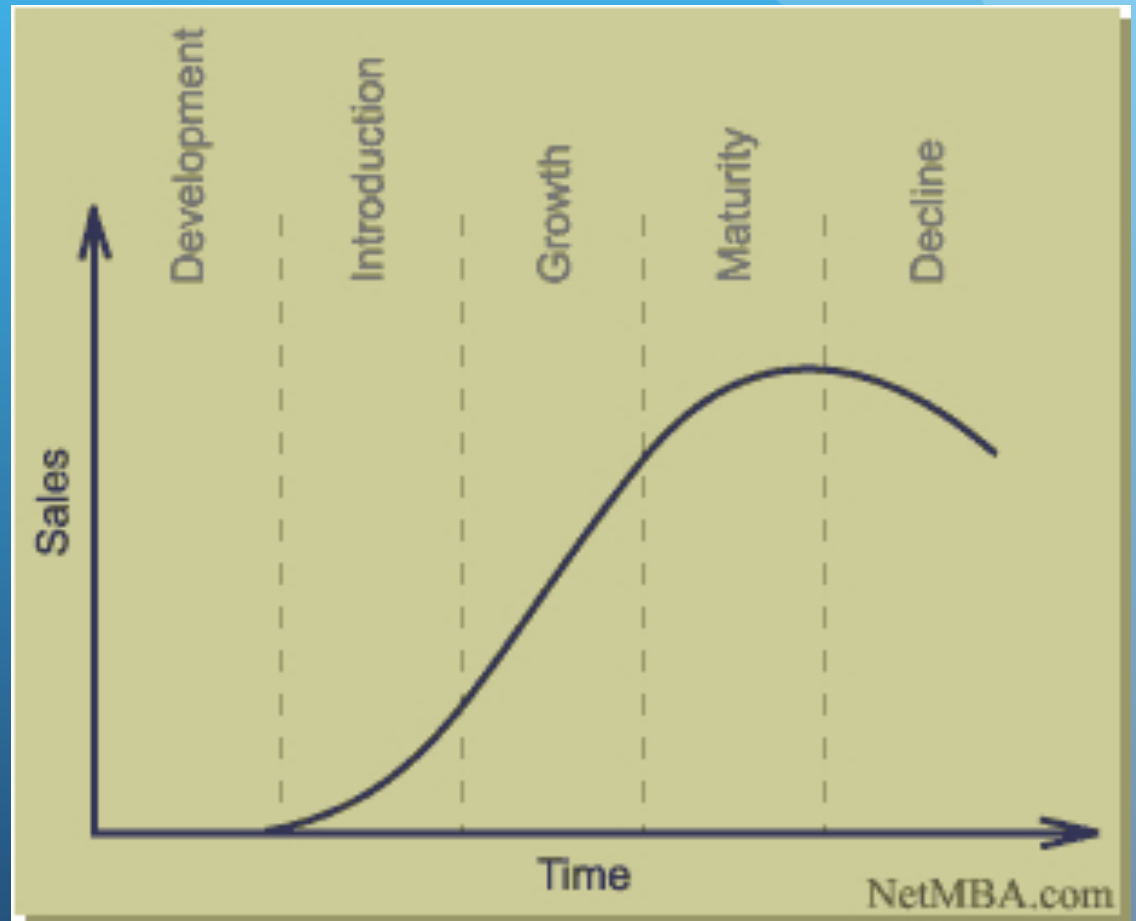
# The 'New' Technologies

- Cryptography
  - ★ ~1976CE
- Super Computers (Dual Use)
  - ★ ~1985CE
  - ★ China is winning!
  - ★ Amazon EC2
- Computer Communication (IP)
  - ★ ~1995CE



# Life Cycle Curve

- Technology
  - ★ Idea
  - ★ Test/Lab
  - ★ Commercial
  - ★ Consumerize
  - ★ Adapt Malware
  - ★ Hostile
  - ★ Weapons





# Chat Bots

- Customer Service, Technical Support, Education, Adult online services.
- Chatter
  - ★ Terrorists/Criminals
  - ★ Filtering
  - ★ Adding Chaff



**The Source for Artificial Intelligence Chat Bots**

# The Mobile World: Cyberwar 4G

- 3B+ Today
- 20-50B 2020
- Even after KNOWING that Mobile would add 'Hell' to our networks...
- B.Y.O.D.
  - ★ Bring Your Own Disaster
  - ★ Breach Your Own Data
- Emulate Enterprise Security





# Mobile Devices Are Mobile



Firewall Policy #11  
Rio, Brazil (Mobile



# IoT (Internet of Terror)



## Autonomous Driving

Google's modified Toyota Prius uses an array of sensors to navigate public roads without a human driver. Other components, not shown, include a GPS receiver and an inertial motion sensor.

### LIDAR

A rotating sensor on the roof scans more than 200 feet in all directions to generate a precise three-dimensional map of the car's surroundings.

### VIDEO CAMERA

A camera mounted near the rear-view mirror detects traffic lights and helps the car's onboard computers recognize moving obstacles like pedestrians and bicyclists.



### POSITION ESTIMATOR

A sensor mounted on the left rear wheel measures small movements made by the car and helps to accurately locate its position on the map.



### RADAR

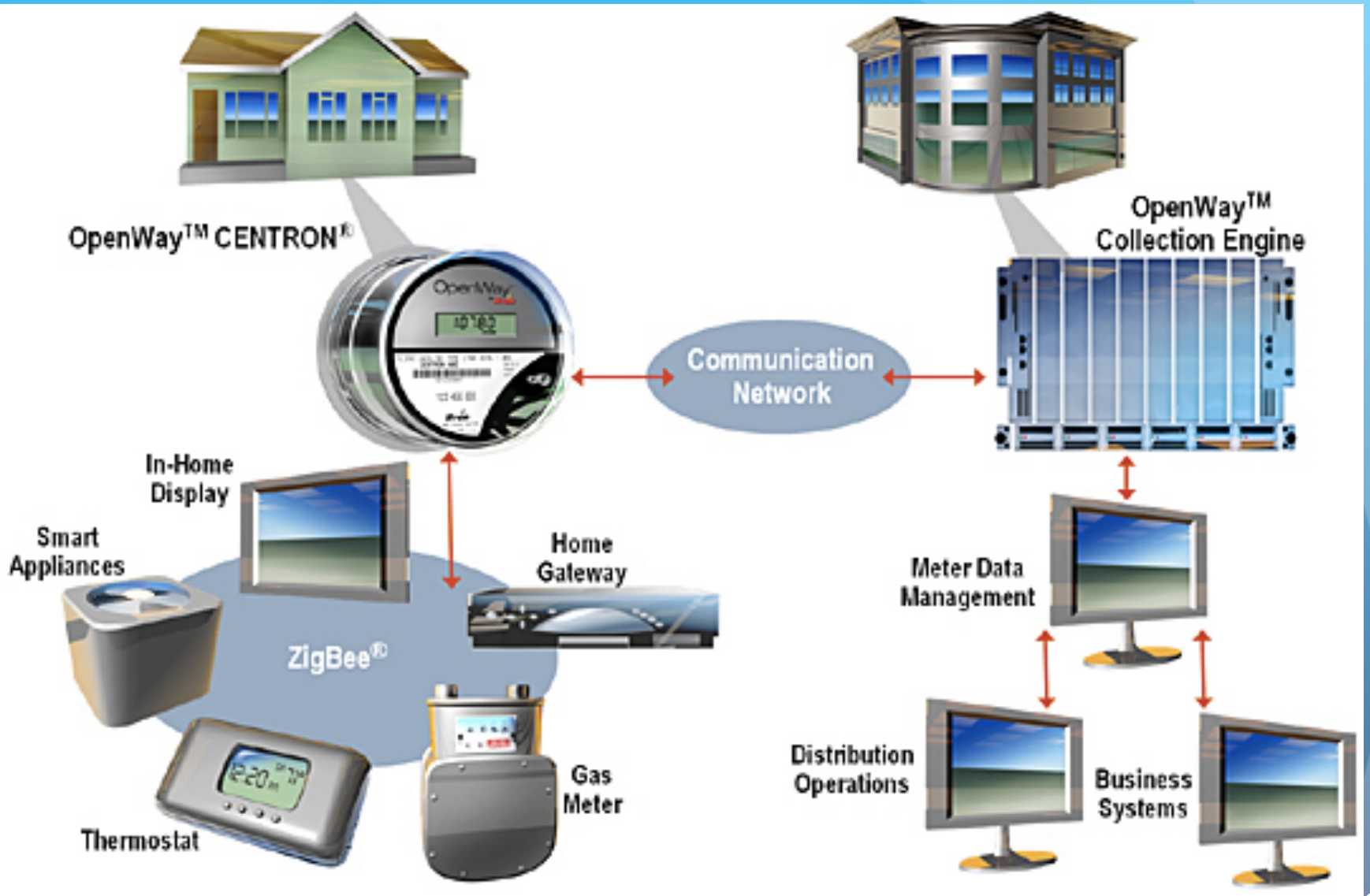
Four standard automotive radar sensors, three in front and one in the rear, help determine the positions of distant objects.

# ICS - SCADA





# Not-so-Smart Grid: Privacy & Security



# Home Brew HERF & EMP

- 158 Meter range
  - ★ \$20 weapons
- 1km Range
  - ★ \$500 weapons
- Internet technology
- Finance and CIP Targets





$R1 = 390 \Omega$

LED1 = Red

LED2 = green

S1+S7 = main power

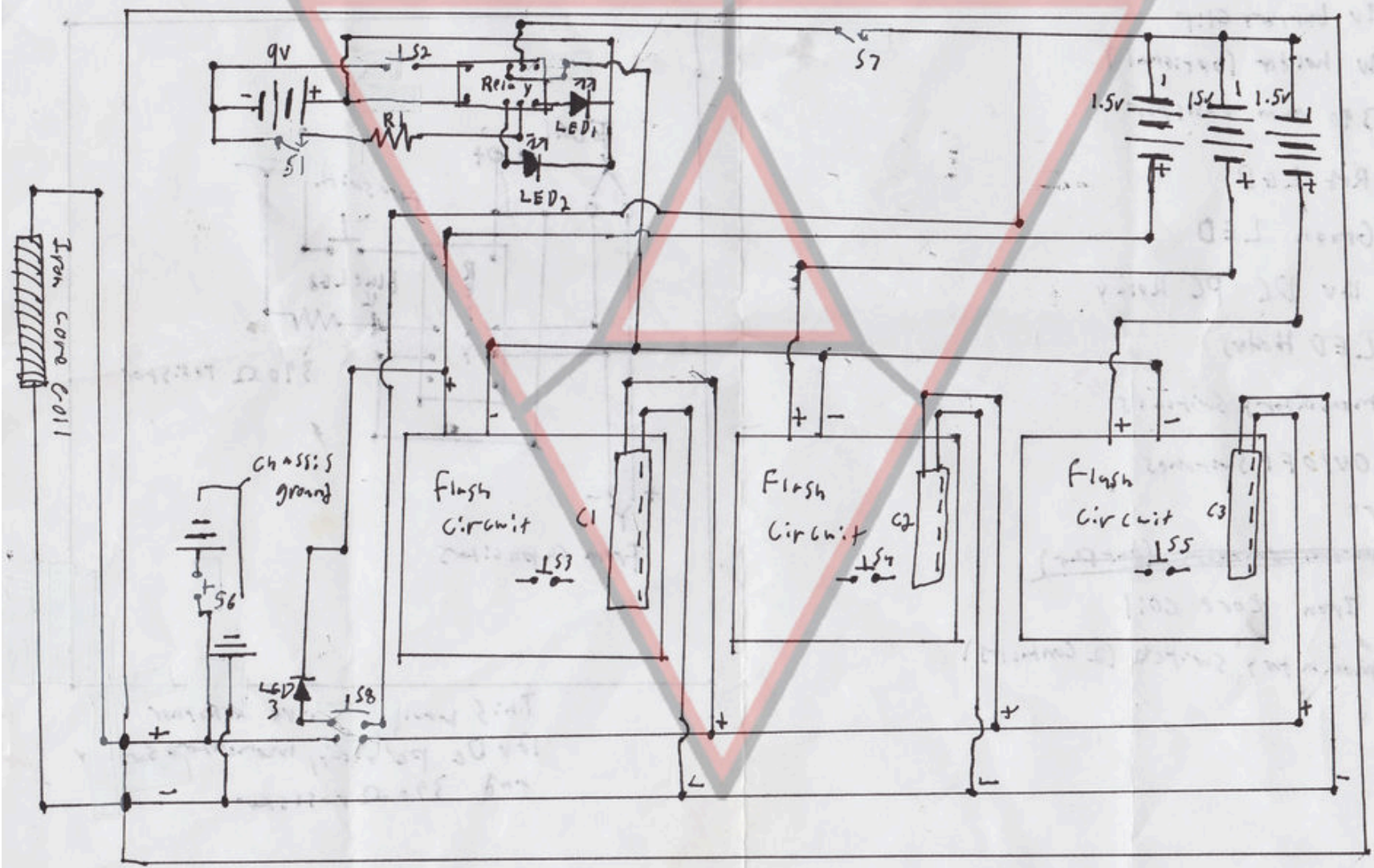
C1,2+3 = flash capacitors.

S2 = Relay on

S3,4+5 = charging switches

S6 = Safety discharge switch S8 = Fire Switch (also presses fire LED [LED3])  
LED3 = Blue (Fire Indicator)

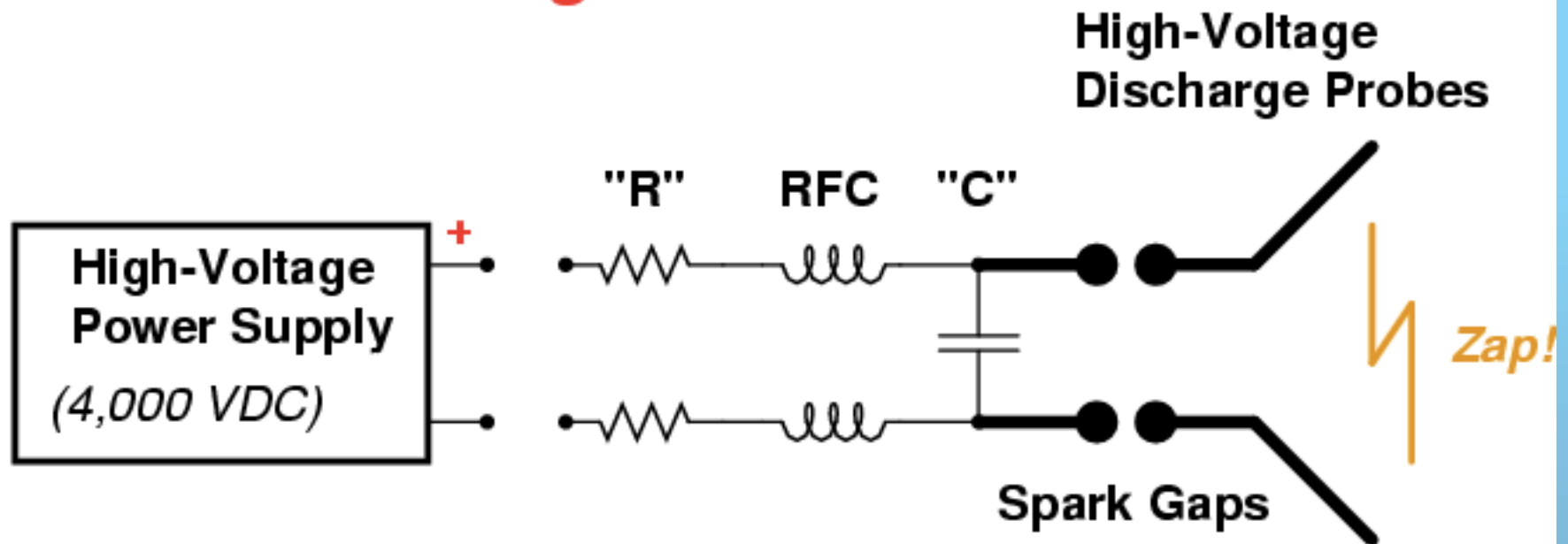
# EMP Generator



\* Charging one circuit - 380v    charging 2 circuits - 760v    charging 3 circuits - 1,140v



# Vehicle Disabling EMP Device



**R = Current Limiting, High-Voltage Resistor**

100 $\Omega$  to 2 M $\Omega$ , depending on H.V. power supply current limit.

**RFC = Radio Frequency Choke**

Filament chokes from an old microwave oven magnetron.

**C = High-Voltage Pulse Capacitor**

4  $\mu$ F / 3,000 VDC General Electric Pyranol used here.

**Spark Gap = Champion D14 Spark Plugs**

Set gap to around 0.04-inches.





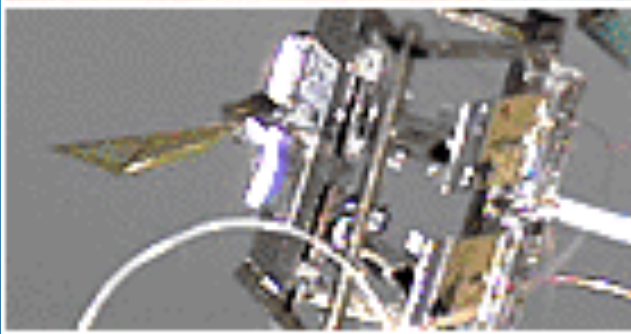
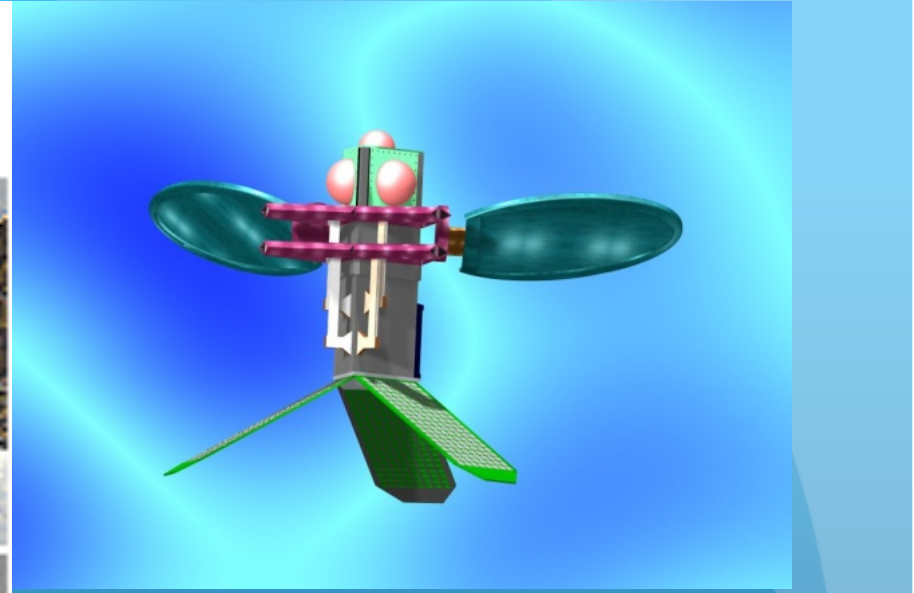
# UAV +

- Pizza (or Bombs)
- Aircraft (Hexicopters)
- The Technology
  - ✦ Real Time Radio Control/Servo Control
  - ✦ Real Time Video in Low Light
  - ✦ (Sounds like a kid's toy)





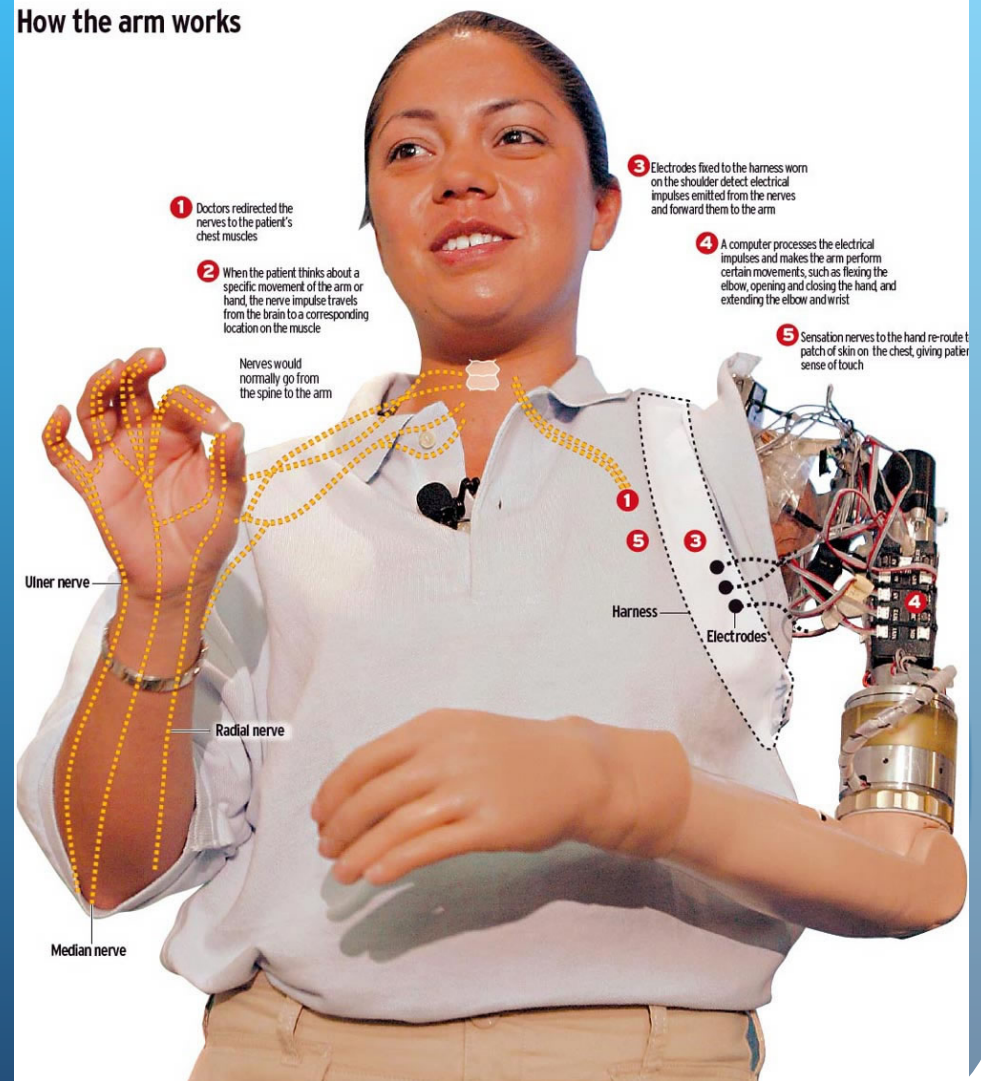
# MFI



# Bio-Engineering & Cyber Soldiers



## How the arm works





# Brain Engineering





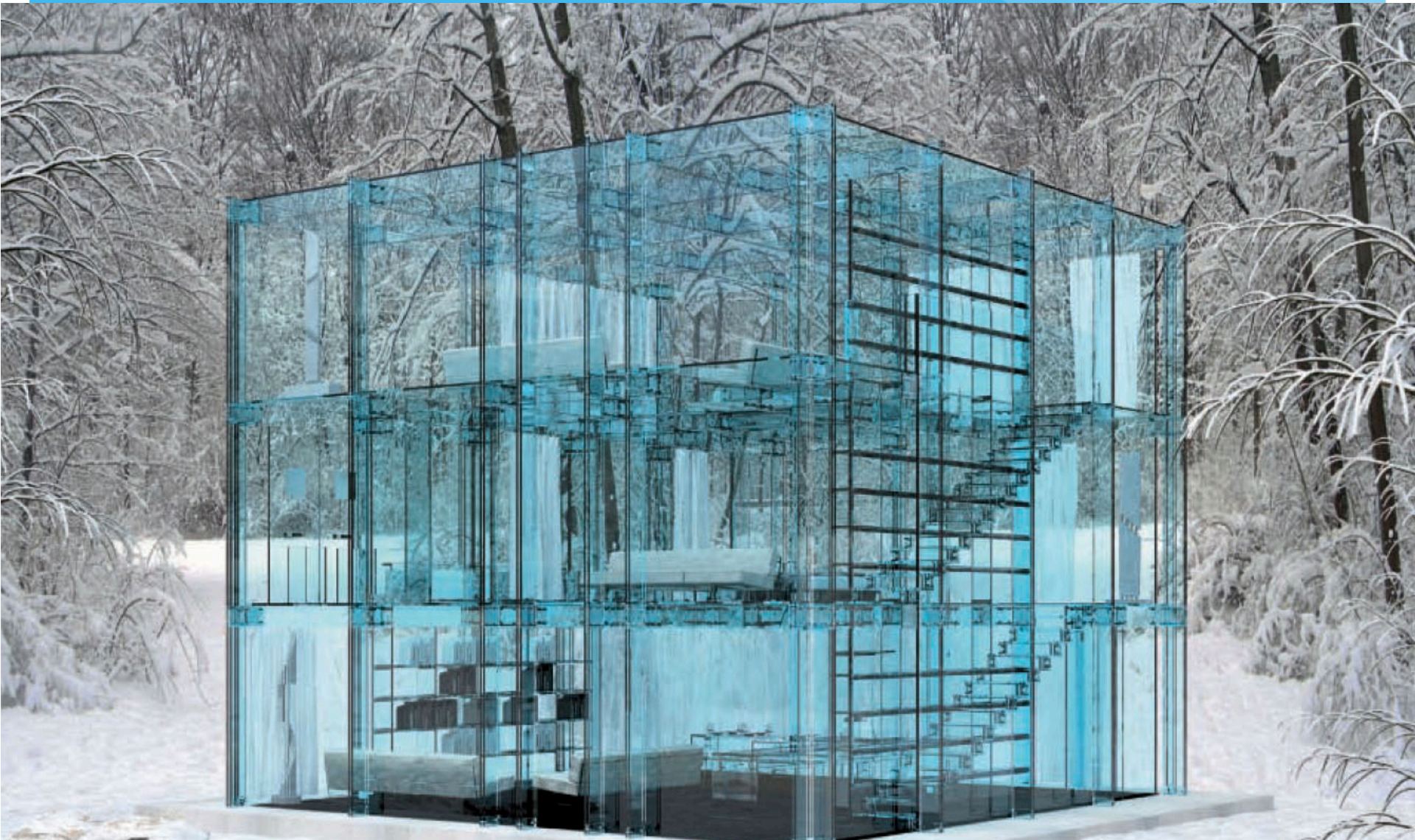
I am Scared Shitless of...



**SCARED SHITLESS**

at least the horse didn't have underwear to risk.

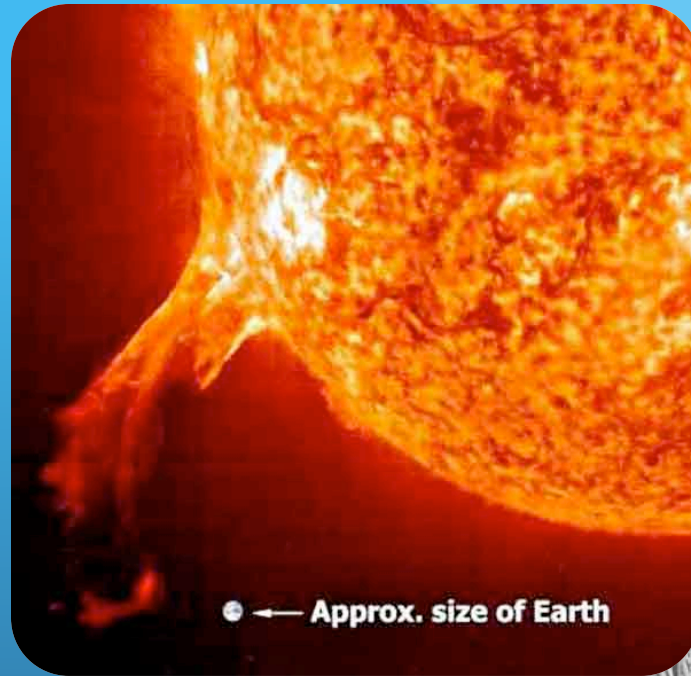
No more privacy...at all





# Carrington Effect: 2013

- The Sun
  - ★ 2012-2015
  - ★ Carrington Effect
    - (1859)
- Complete Failure
  - ★ Satellites
  - ★ Power Grid
  - ★ Communications
  - ★ Medical Care
  - ★ Transportation (food, necessities)
- Answer?





# Winn's Answers For Relief (Short Version)

- ~ Technical
- Take the Lead
  - ★ Community
  - ★ Develop Offense
  - ★ Attack Products
- Systems!!!!!!!
- Turn It Off
  - ★ Graceful Degradation
  - ★ Survivability
- Time Based Security



**Plop Plop, Fizz Fizz.**

Read and follow label directions.

If there's one thing you always look forward to, it's a weekend party. You munch on chips and dip. You chug-a-lug your beer. You bugaloo till two. But sometimes you overdo it. You wake up feeling less than your best. When you do, reach for Alka-Seltzer. The moment you drink it, those tiny bubbles start to speed relief through your system. With specially buffered aspirin to soothe your throbbing head. And antacids to calm your upset stomach.

You'll be thankful you have Alka-Seltzer on hand. Because when morning comes, the only sound your aching head can bear to hear is a gentle plop plop, fizz fizz.

**Alka-Seltzer**  
Oh, what a relief it is!

© 1994 MCNEIL-PPC LABORATORIES, INC.

# Human

- Simplicity
- Teach History
- Embrace Failure
- It's our responsibility!  
★ **Not the users.**



If only everything were this simple.



# Questions?

- Answers or Responses
- Winn Schwartau
  - ★ [Winn@TheSecurityAwarenessCompany.Com](mailto:Winn@TheSecurityAwarenessCompany.Com)
  - ★ 727.393.6600

