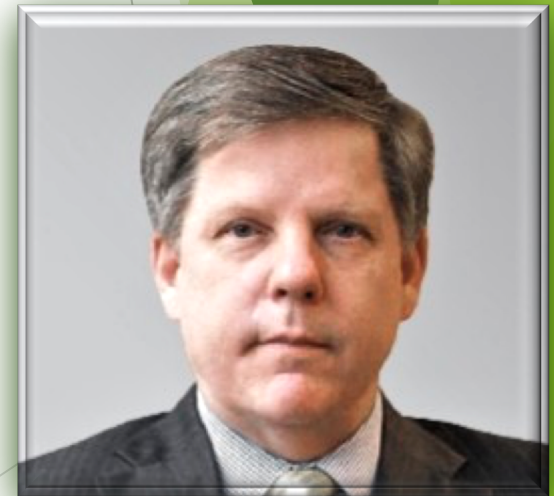


# “Build a Solid Foundation for the Global Village”

“Rules of the Game in the Digital World”

David Simpson, Rear Admiral (ret.)  
Virginia Tech, Pamplin College of Business

Guancho Forum  
August 21st, 2019  
Beijing, China



# Cyber Risk Exposure is significant & increasing (2019 IBM/Ponemon Study)

- ▶ Yet ... when companies are superb planners, expert in contingency response, many fail to address reputation risk from cyber
- ▶ What are the costs? Direct loss of IP, legal, regulatory, indirect loss of brand equity, customers, employee productivity
- ▶ Avg cost of a data breach: \$3.92m globally, \$8.19m in the U.S.
- ▶ Small Company (less than 500) data breach avg: \$2.5m
- ▶ Most expensive “data breach” industry: Healthcare
- ▶ Average data breach size: 25,575 records
- ▶ Malicious Breaches: Most Common, Most Expensive
- ▶ Accidental Breaches: 43% of lost records Cloud Configuration Mistakes

# New Data Concerns!

## Analog

- ▶ Event Tools Increasingly Digital, Interactive, Collectors
  - ▶ Smart TV's and Radios listen as well as broadcast
  - ▶ Advertisers micro-target attendee virtual space
  - ▶ Real-time Feedback & Directed Activity
  - ▶ Audiences a part of the experience
    - ▶ Directly influence content
    - ▶ Personalized curation
    - ▶ Cross platform
    - ▶ Data portability

## Digital

## Interactive

Copyright

IP

Privacy

- ▶ Content creators and Providers
  - ▶ care greatly about their IP
- ▶ Content Consumers
  - ▶ more sophisticated Privacy expectations

# Smart Cities & Smart Venues

- ▶ Public Safety risk reduction in smart cities

- ▶ Recognize hazardous situations sooner
- ▶ More effective mitigation
- ▶ Enhance Response

- ▶ IoT sensors, microtargeted geo-fencing, personalized messaging, OT response

- ▶ Risk Reduction Actions & Triage

- ▶ Content with “built-in” response paths (hyperlinks, polling, structured and unstructured feedback, ...)

- ▶ Event Risk Reduction Tools?



SMART CITY USE CASES



SMART PARKING



WEATHER SENSORS



DIGITAL SIGNAGE



ACOUSTIC SENSORS



WATER & GAS METERING



TRAFFIC LIGHTS & CONTROLS



ELECTRIC VEHICLE CHARGING



SOLAR INVERTERS



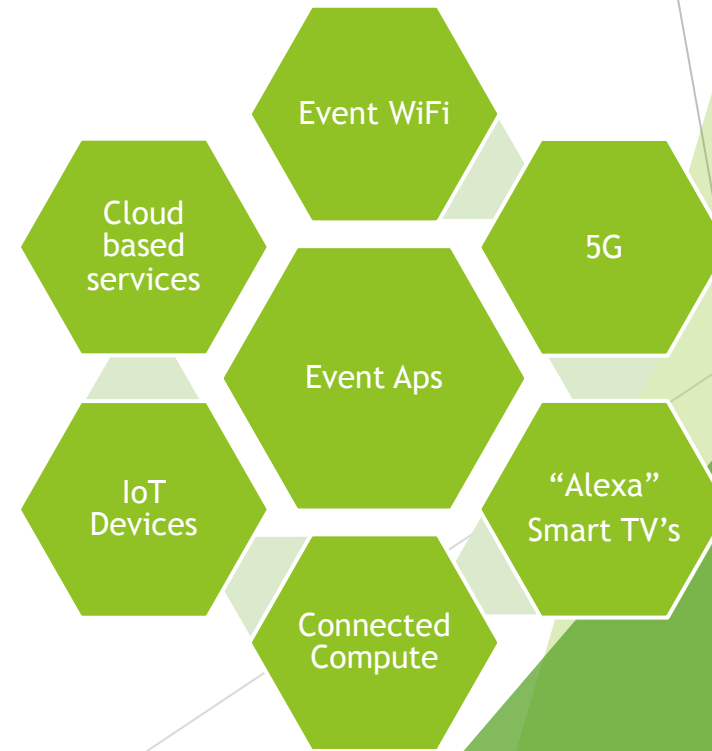
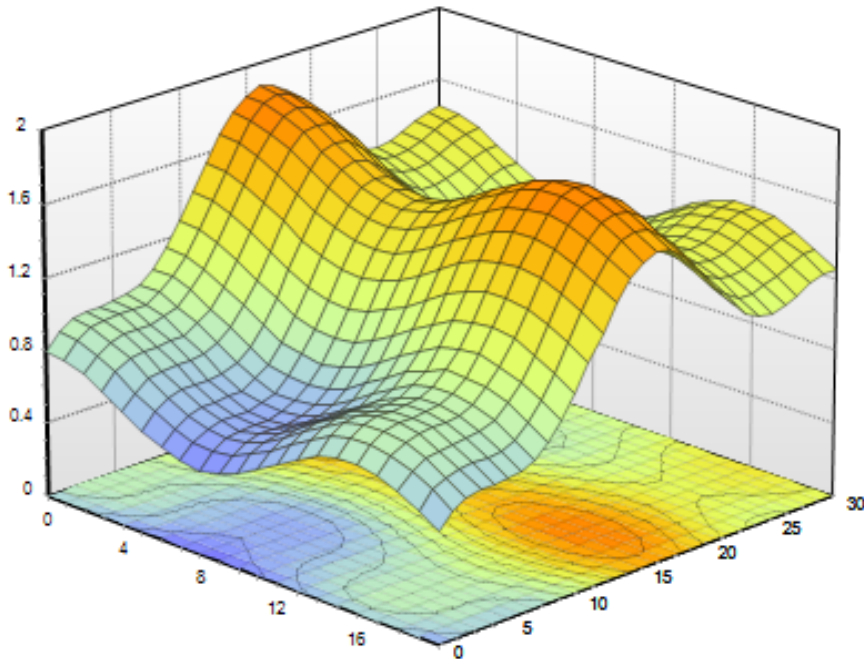
SECURITY AND SURVEILLANCE



WASTE MANAGEMENT

# Rapidly Expanding Attack Surface

- ▶ Confidentiality, Integrity, Availability
- ▶ New threat vectors from the surrounding ecosystem
- ▶ Information sharing between industry verticals growing in importance
- ▶ BOTNET's exploit your IoT deployment



# Globally Should be Reducing Cyber Risk

- ▶ Reverse chronic underinvestment in cybersecurity
- ▶ Implement machine learning and AI to support cyber defense
- ▶ Shift from Corporate lag indicators to lead indicators
- ▶ Insert Cybersecurity into the design and development cycle
- ▶ Adopt Cybersecurity Risk Management Best Practice Framework
  - ▶ Facilitate Supply Chain Risk Reduction
  - ▶ Assess, Appreciate and Address
- ▶ Identify and Mitigate Market Cyber Externalities
- ▶ Transparency