



12TH ANNUAL LEADERSHIP EVENT

# CYBER SECURITY SUMMIT

Security solutions through collaboration.™

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## Island

# EYES WIDE OPEN



**CYBER SECURITY SUMMIT**  
Security solutions through collaboration.™

12th Annual Cyber Security Summit | October 24-26, 2022

[cybersecuritysummit.org](https://cybersecuritysummit.org)

A close-up, artistic photograph of a human eye. The iris is replaced by a camera lens, complete with a flash and lens elements, creating a metaphor for digital vision or surveillance. The eye is looking slightly to the right. The background is a soft, out-of-focus skin tone.

T

# Hindsight 20/20: Applying Foresight to Cybersecurity

Jeremy Treadwell  
President & COO

# JEREMY TREADWELL



## PERSONAL PROFILE

- Information Security Founder
- Certified Futurist

## EDUCATION

- Undergraduate Degrees in Computer Science & Multimedia
- Graduate Degree in Business Administration
- HCI Adjunct Professor

## WORK EXPERIENCES & ACHIEVEMENTS

- Digital Experiences Strategist
- Product Development Consultant
- User Behavior Strategist

## HOBBIES

- Traveling
- Reading
- Boxing
- Golf





# **HISTORY** *of the* **FUTURE**

# HISTORY *of the* FUTURE

1940s

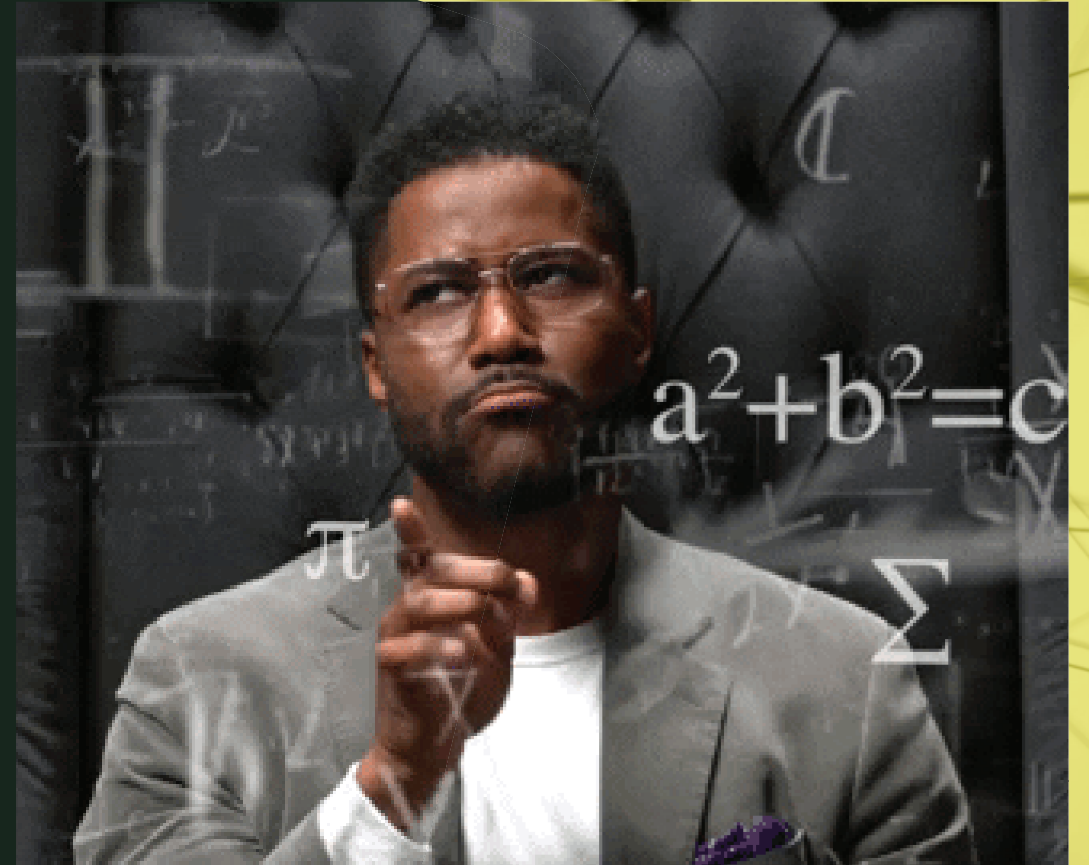
The term futurology in its contemporary sense was first coined in the mid 1940s by the German Professor Ossip K. Flechtheim, who proposed a new science of probability

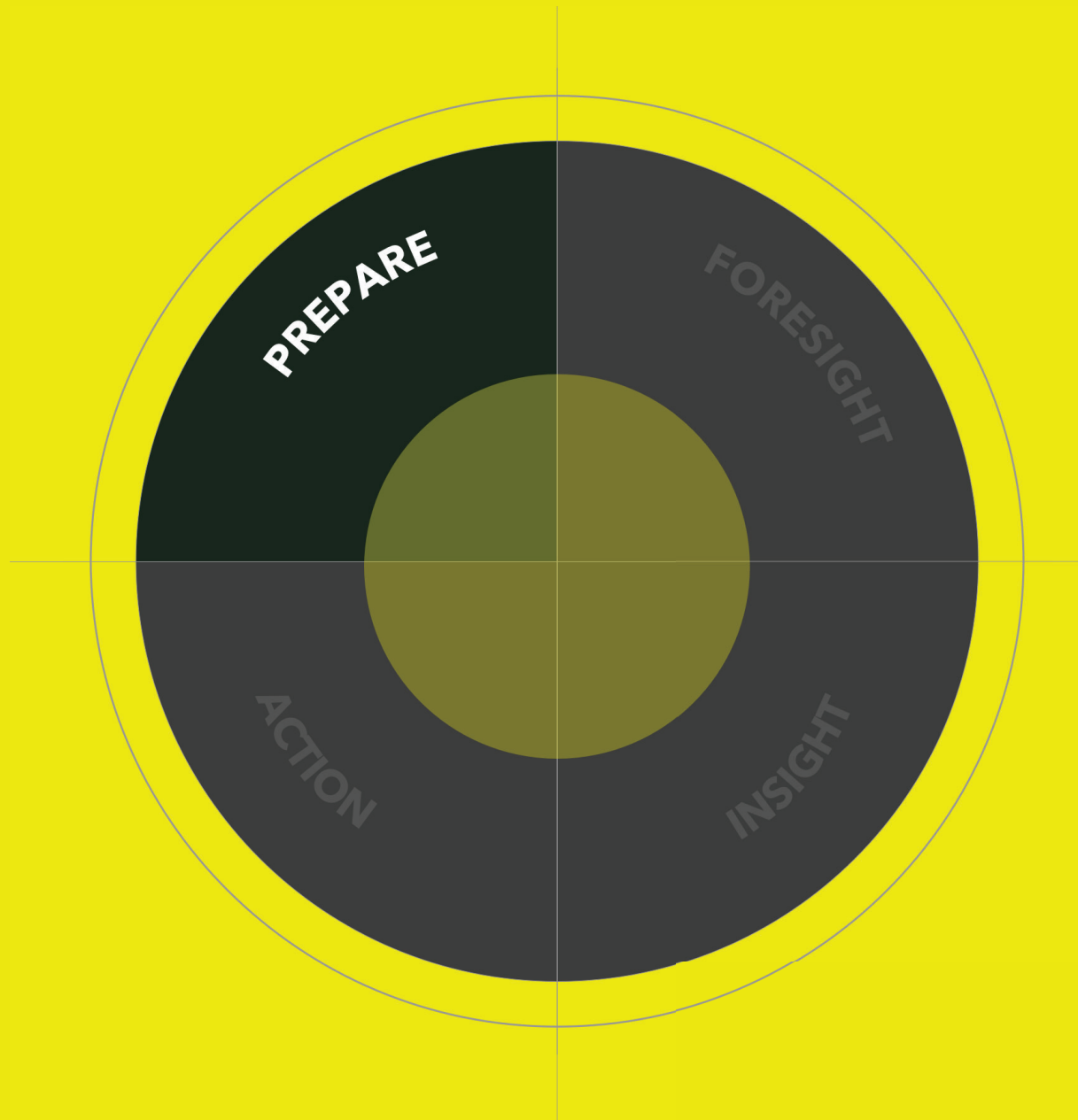
1950s

RAND and SRI began in long-range planning, trend watching, scenario development and visioning, at first under World War II military and government contracts

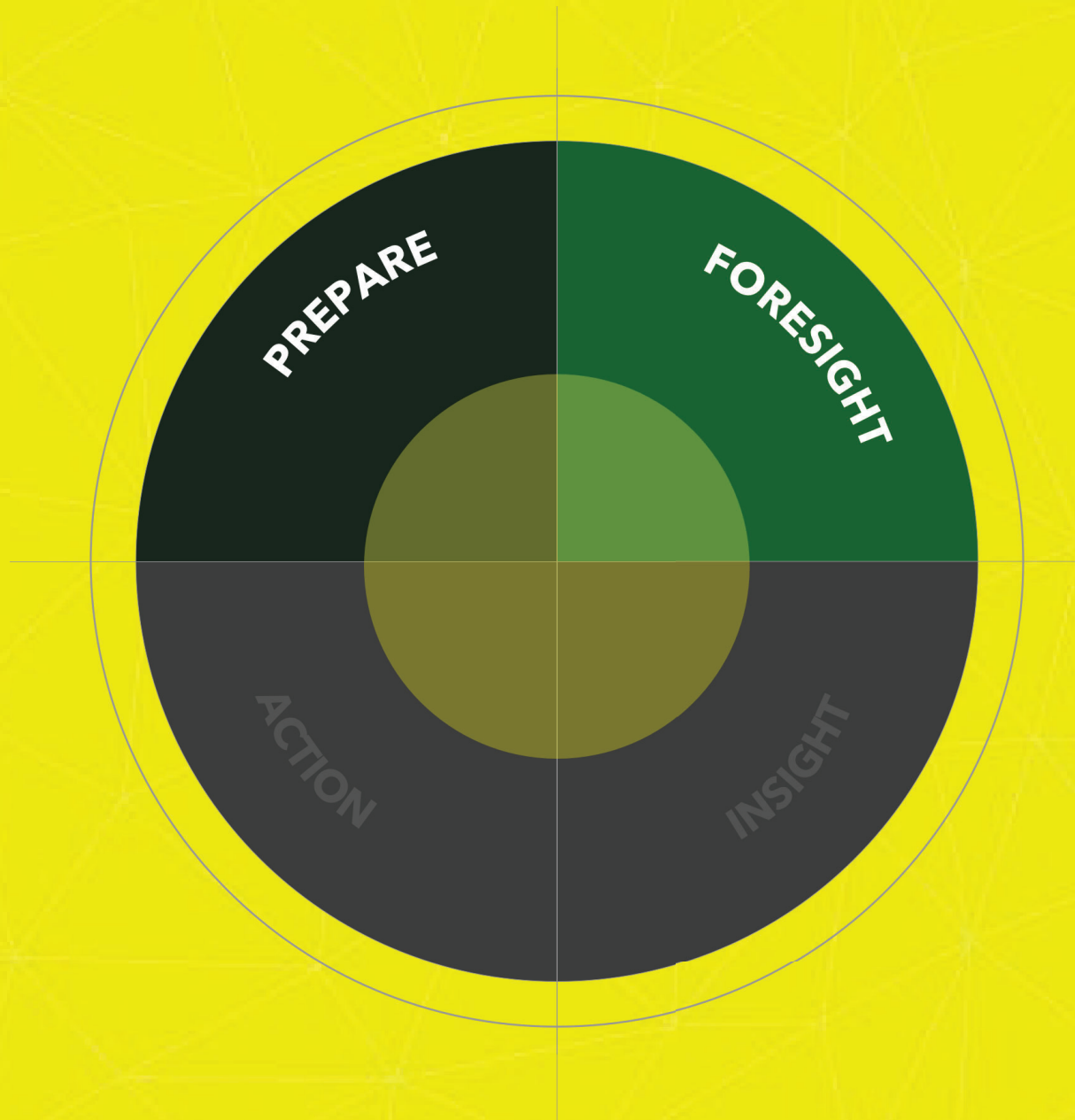
1960s

Herman Kahn found the Institute of the Future in 1968 focusing on government, private institutions, foundations and civic organizations

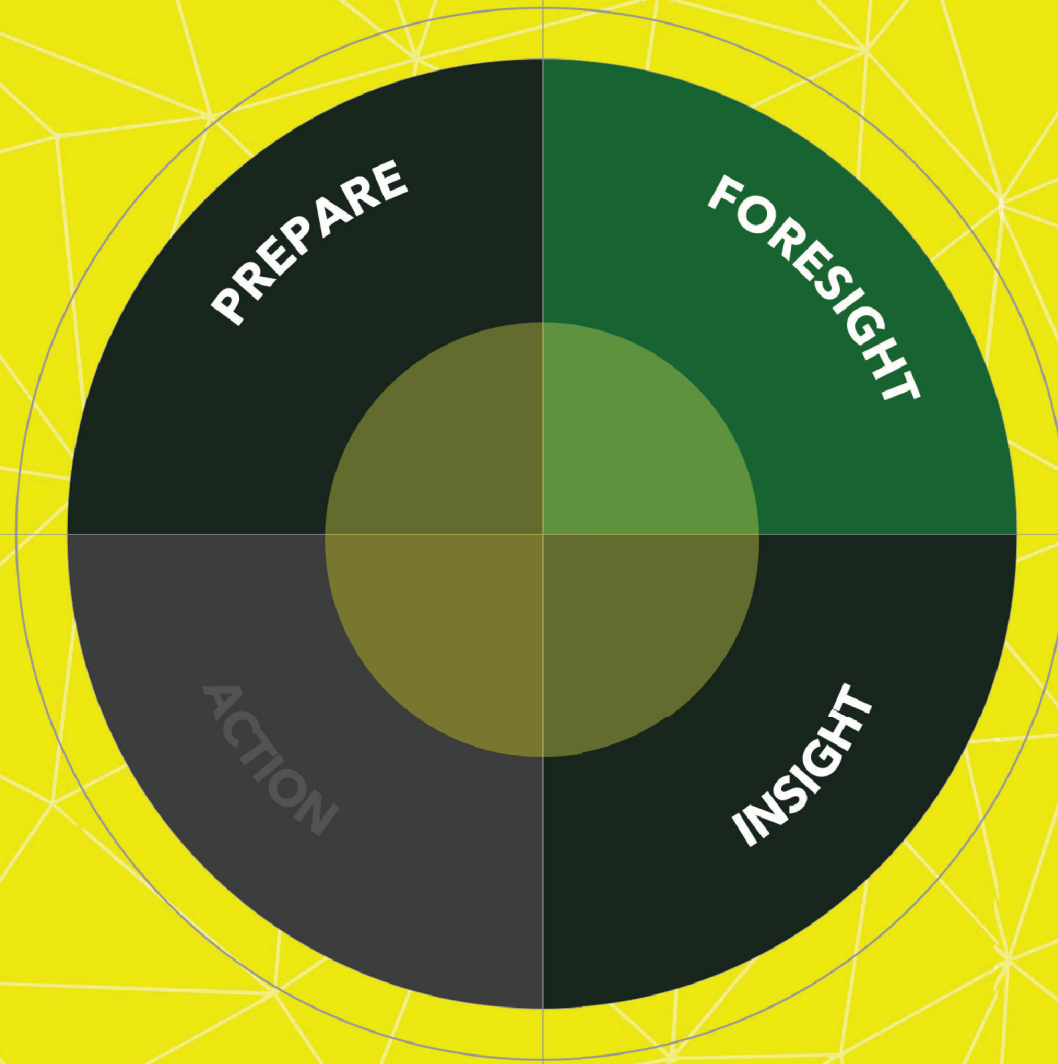




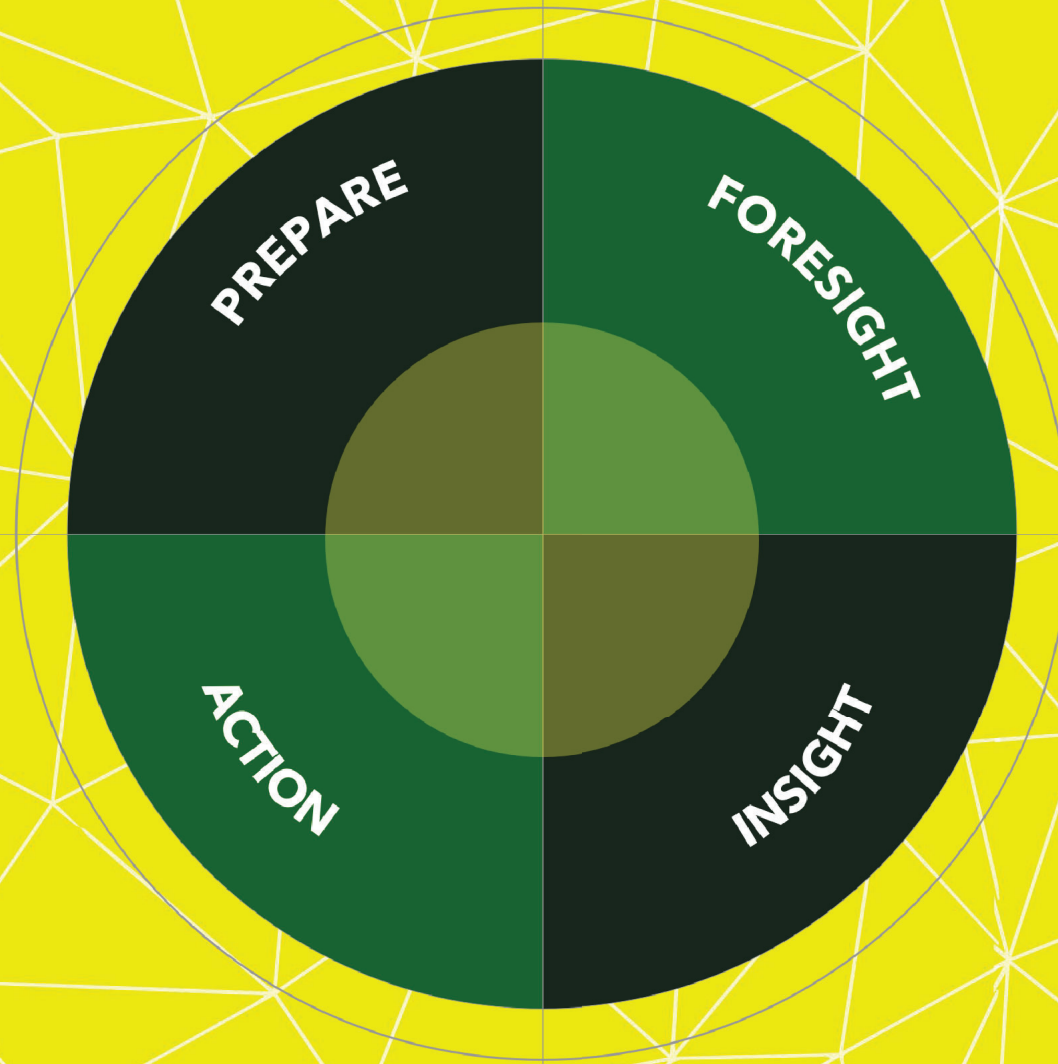
**FUTURE** *thinking*



**FUTURE** *thinking*



**FUTURE** *thinking*



**FUTURE** *thinking*



# EMERGENCE *of* INFORMATION SECURITY

“

*If a message is written in the clear, meaning in a common natural language, without concealment, anyone could get hold of it and be able to read it, if they know the language and understand it.*

*Churchhouse, 2002*

”



# TIMELINE *of* SECURITY

- Colossus, the first programmable digital machine was created
- British developed first digital machine to hack German codes (WWII)

- Intel released the first integrated microprocessor
- First "worm" attack occurred on the internet in 1989

- ARPANET became the Internet
- The Pentagon's first "information warfare" exercise, known as 'Eligible Receiver', found that industrial and information systems throughout the US are vulnerable to cyberattacks

- Scientist conclude that the cyber-universe is complex and well beyond anyone's understanding
- Some of the largest hacks in history (Target, Marriott, Yahoo)

1940's

1960's

1970's

1980's

1990's

2000's

2010's

- J.C.R. Licklider wrote series of memos on idea for "Galactic Network" where people could access data from anywhere
- ARPANET's first message sent at 10:30 pm, Oct. 29, 1969

- National security officials in the US launched one of the worlds first cyber attacks on another country
- Bob Thomas created the "Creeper" as an experimental self-duplicating program in 1971

- The amount of digital information surpass the amount of all information created in human history
- Cyberspace accelerated its expansion with the number of devices over 12.5 billion due to IoT

The Equifax logo, featuring the word "EQUIFAX" in a bold, red, sans-serif font, tilted at an angle.The Target logo, consisting of a red bullseye symbol above the word "TARGET" in a red, sans-serif font, tilted at an angle.The Zoom logo, featuring a blue circle with a white video camera icon inside, above the word "zoom" in a blue, lowercase, sans-serif font.

155.8 million individuals are affected by data exposure in the US  
-Joseph Johnson, Mar 3, 2021, Statista

The Capital One logo, featuring the word "Capital" in blue and "One" in a lighter blue, with a red swoosh above the "One", tilted at an angle.The Marriott Hotels, Resorts, Suites logo, featuring the word "Marriott" in a red, stylized font, with "HOTELS · RESORTS · SUITES" in a smaller, red, sans-serif font below it, tilted at an angle.The T-Mobile logo, featuring the word "T-Mobile" in a pink, sans-serif font, tilted at an angle.The easyJet logo, featuring the word "easyJet" in a bold, orange, sans-serif font, tilted at an angle.The GoDaddy logo, featuring the word "GoDaddy" in a green, sans-serif font, tilted at an angle.

A background image featuring a close-up of a fingerprint. The ridges and valleys of the fingerprint are visible, with the central part of the image being a solid dark grey band where the text is located.

# **NEED** *for* **FORSIGHT**

# BECOME A *Cyber*FUTURIST

INTELLIGENCE

SCOPE

METHODS

APPROACH

# TYPES *of* FUTURES INTELLIGENCE

MEGATRENDS

TRENDS

CHANGE DRIVERS

SCENARIOS

DISRUPTIONS

WEAK SIGNALS

WILD CARDS

SCIENCE FICTION

OBJECTIVITY OF FUTURES KNOWLEDGE



SEEING THE  
BIGGER  
PICTURE

FINDING  
ALTERNATIVES

HORIZON  
SCANNING

FREE  
IMAGINATION

IMPORTANCE OF HISTORICAL EVENTS

# Cyber**FORESIGHT SCOPE**

AREA	QUESTIONS TO ASK
TARGET OUTCOMES AND DELIVERABLES	Which will most likely produce the deliverables expected from the foresight activity?
FORESIGHT INTENTIONS	Is the objective to diagnose a current state, or to prognose or prescribe a future state?
FORESIGHT TIMEFRAME	Is this activity listening or planning for Short-Range (1-3 Years), Mid-Range (5+ Years), or Long-Range (10+ Years)
ACTIVITY TIMEFRAME	How long can our team dedicate to this foresight activity? – One Week? Three Months?
REQUIRED RESOURCES/SKILLS	What access does the project have to administrative support, data available on the subject, expert participants, financial resources?

DATA PROTECTION



# CYBER*foresight* METHODS

## ENVIRONMENTAL ANALYSIS FRAMEWORKS

Systematically explore a chosen environment with the goal of detecting signals of incoming change that could significantly impact the future.

### STEEP

Socio-cultural, Technological, Economic, Environmental and Political

### PESTLE

Political, Economic, Socio-cultural, Technological, Legal and Environmental

## TREND ANALYSIS

Risk or Security concerns related to an emerging pattern of change.

### HORIZON SCANNING

Identification and monitoring of trends

### TREND IMPACT ANALYSIS

Measurement of a potential megatrend's impact.

## SCENARIO MODELING & ANALYSIS

Exploratory tools to think about possible, desired or undesired futures

### VISIONING

Envisioning the ideal future to create a strategy to achieve specific goals.

### GAMING

Roleplay scenarios to test possible strategies or solutions

## CYBERSECURITY ANALYSIS METHODS

Assess risk and potential future threats, incidents and crisis scenarios

### TARA

Threat Agent Risk Assessment - used to identify, assess, and prioritize risks

### OCTAVE

Operationally Critical Threat, Asset, and Vulnerability Evaluation - a comprehensive evaluation method to identify, rank, and manage cybersecurity risks

## RESEARCH GROUPS

The assembly of cyber and adjacent departments or external partners to capture and analyze trends and scenarios

### DELPHI METHOD

A Military created qualitative research approach built by leveraging foresight professionals

### GROUP-BASED FORECAST

Assembles individual's experiences into consistent and collective judgements

## REGRESSION ANALYSIS

A prescriptive foresight approach through event regression and system decomposition

### MORPHOLOGICAL ANALYSIS

Explores complex problems and possible solutions using a multi-dimensional matrix.

### BACKCASTING

Exercise that raises awareness of the fact that the future is determined by many factors and that different actions lead to various alternative outcomes

# CYBERFORSIGHT APPROACH

**ANALYZE**

STEP 1

FIND  
**CHANGE**

STEP 2

FIND  
**DRIVERS**

STEP 3

FIND  
**CYBER IMPACT**

STEP 4

**PRIORITIZE**

STEP 5



# *New-age* RESILIENCY EXERCISES

ESTABLISH  
RISK  
APPETITE

PENETRATION  
TESTING

TABLE TOP  
EXERCISES  
INCLUDING EXECUTIVES, BOARDS  
OR EXTERNAL PARTNERS

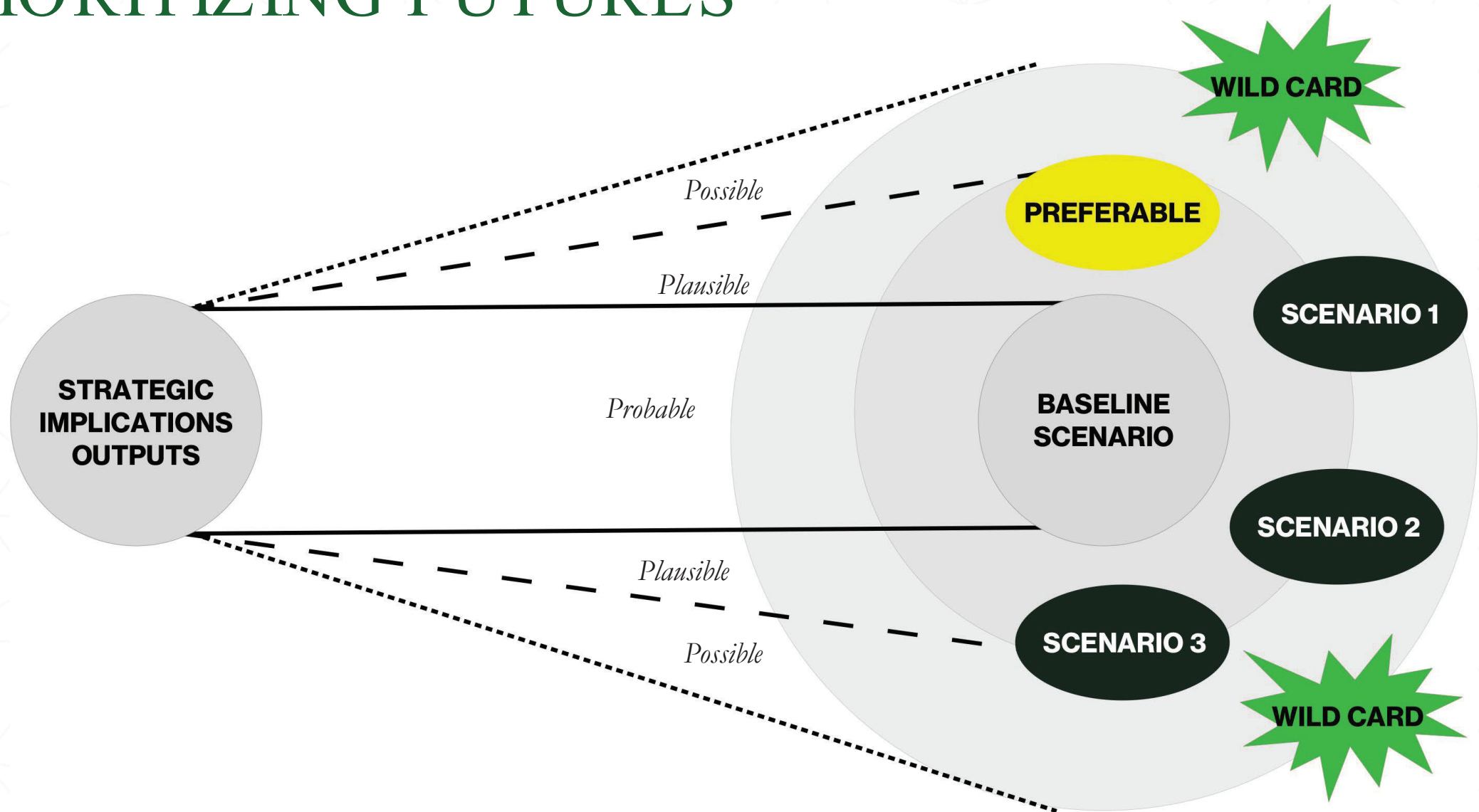
REVIEW  
PLANS  
(BUSINESS & SERVICE CONTINUITY  
PLANNING)

STRATEGIC IMPLICATIONS EXERCISES

**HARDENS SECURITY RESILIENCY**



# PRIORITIZING FUTURES



# FORESIGHT *to* STRATEGY



TEGY & POLICY

What's happened or happening?

Why is this happening?

What's *really* happening?

What impact could it have?

What is the likelihood of this happening

What should we plan for?

What will we do to plan and prepare?



# *Key* TAKEAWAYS

Foresight can be an asset to the cybersecurity community

Foresight is flexible and must be adapted for each activity

Foresight helps improve understanding and communication

*Any* **QUESTIONS**

The background of the slide is dark with a pattern of large, 3D-style question marks in various shades of green. The text 'Any QUESTIONS' is positioned on the left side of the slide.

# THANK *you*

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